

AIR-COOLED SPLIT-TYPE DUCTED AIR CONDITIONERS

DATA BOOK

Series : **PEH**

HEAT PUMP : Model PEH-7, 8, 10MYB

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Specifications subject to change without notice.

SAFETY PRECAUTIONS

1.1. Before installation and electric work

- ▶ Before installing the unit, make sure you read all the “Safety precautions”.
- ▶ The “Safety precautions” provide very important points regarding safety. Make sure you follow them.

Symbols used in the text

Warning:

Describes precautions that should be observed to prevent danger of injury or death to the user.

Caution:

Describes precautions that should be observed to prevent damage to the unit.

Symbols used in the illustrations

-  : Indicates an action that must be avoided.
-  : Indicates that important instructions must be followed.
-  : Indicates a part which must be grounded.
-  : Beware of electric shock. <Color: yellow>

Warning:

Carefully read the labels affixed to the unit.

Warning:

- **Ask the dealer or an authorized technician to install the air conditioner.**
 - Improper installation by the user may result in water leakage, electric shock, or fire.
- **Install the unit at a place that can withstand its weight.**
 - Inadequate strength may cause the unit to fall down, resulting in injuries.
- **Use the specified cables for wiring. Make the connections securely so that the outside force of the cable is not applied to the terminals.**
 - Inadequate connection and fastening may generate heat and cause a fire.
- **Prepare for strong winds and earthquakes and install the unit at the specified place.**
 - Improper installation may cause the unit to topple and result in injury.
- **Always use an filter and other accessories specified by Mitsubishi Electric.**
 - Ask an authorized technician to install the accessories. Improper installation by the user may result in water leakage, electric shock, or fire.
- **Never repair the unit. If the air conditioner must be repaired, consult the dealer.**
 - If the unit is repaired improperly, water leakage, electric shock, or fire may result.
- **Do not touch the heat exchanger fins and metal edges.**
 - Improper handling may result in injury.
- **If refrigerant gas leaks during installation work, ventilate the room.**
 - If the refrigerant gas comes into contact with a flame, poisonous gases will be released.
- **Install the air conditioner according to this Installation Manual.**
 - If the unit is installed improperly, water leakage, electric shock, or fire may result.
- **Have all electric work done by a licensed electrician according to “Electric Facility Engineering Standard” and “Interior Wire Regulations” and the instructions given in this manual and always use a special circuit.**
 - If the power source capacity is inadequate or electric work is performed improperly, electric shock and fire may result.
- **Securely install the terminal cover (panel).**
 - If the terminal cover (panel) is not installed properly, dust or water may enter the outdoor unit and fire or electric shock may result.
- **When installing and moving the air conditioner to another site, do not charge the it with a refrigerant different from the refrigerant (R22) specified on the unit.**
 - If a different refrigerant or air is mixed with the original refrigerant, the refrigerant cycle may malfunction and the unit may be damaged.
- **If the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit even if the refrigerant should leak.**
 - Consult the dealer regarding the appropriate measures to prevent the safety limit from being exceeded. Should the refrigerant leak and cause the safety limit to be exceeded, hazards due to lack of oxygen in the room could result.
- **When moving and reinstalling the air conditioner, consult the dealer or an authorized technician.**
 - If the air conditioner is installed improperly, water leakage, electric shock, or fire may result.
- **After completing installation work, make sure that refrigerant gas is not leaking.**
 - If the refrigerant gas leaks and is exposed to a fan heater, stove, oven, or other heat source, it may generate noxious gases.

- **Do not reconstruct or change the settings of the protection devices.**
 - If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Mitsubishi Electric are used, fire or explosion may result.
- **To dispose of this product, consult your dealer.**
- **The installer and system specialist shall secure safety against leakage according to local regulation or standards.**
 - Following standards may be applicable if local regulation are not available.
- **Pay a special attention to the place, such as a basement, etc. where refrigeration gas can stay, since refrigeration is heavier than the air.**
- **The appliance is not intended for use by young children or infirm persons without supervision.**
- **Young children should be supervised to ensure that they do not play with the appliance.**
- **Never operate in open phase condition.**
Control box may be broken.

1.2. Before Installation

Caution:

- **Do not install the unit where combustible gas may leak.**
 - If the gas leaks and accumulates around the unit, an explosion may result.
- **Do not use the air conditioner where food, pets, plants, precision instruments, or artwork are kept.**
 - The quality of the food, etc. may deteriorate.
- **Do not use the air conditioner in special environments.**
 - Oil, steam, sulfuric smoke, etc. can significantly reduce the performance of the air conditioner or damage its parts.
- **When installing the unit in a hospital, communication station, or similar place, provide sufficient protection against noise.**
 - The inverter equipment, private power generator, high-frequency medical equipment, or radio communication equipment may cause the air conditioner to operate erroneously, or fail to operate. On the other hand, the air conditioner may affect such equipment by creating noise that disturbs medical treatment or image broadcasting.
- **Do not install the unit on a structure that may cause leakage.**
 - When the room humidity exceeds 80 % or when the drain pipe is clogged, condensation may drip from the indoor unit. Perform collective drainage work together with the outdoor unit, as required.

1.3. Before Installation (moved) - electrical work

Caution:

- **Ground the unit.**
 - Do not connect the ground wire to gas or water pipes, lightning rods, or telephone ground lines. Improper grounding may result in electric shock.
- **The reverse phase of L lines (L₁, L₂, L₃) can be detected (Error cord: 4103), but the reverse phase of L lines and N line can be not be detected.**
 - Some electric parts should be damaged when power is supplied under the miss wiring.
- **Install the power cable so that tension is not applied to the cable.**
 - Tension may cause the cable to break and generate heat and cause a fire.
- **Install an leak circuit breaker, as required.**
 - If an leak circuit breaker is not installed, electric shock may result.
- **Use power line cables of sufficient current carrying capacity and rating.**
 - Cables that are too small may leak, generate heat, and cause a fire.
- **Use only a circuit breaker and fuse of the specified capacity.**
 - A fuse or circuit breaker of a larger capacity or a steel or copper wire may result in a general unit failure or fire.
- **Do not wash the air conditioner units.**
 - Washing them may cause an electric shock.
- **Be careful that the installation base is not damaged by long use.**
 - If the damage is left uncorrected, the unit may fall and cause personal injury or property damage.
- **Install the drain piping according to this Installation Manual to ensure proper drainage. Wrap thermal insulation around the pipes to prevent condensation.**
 - Improper drain piping may cause water leakage and damage to furniture and other possessions.
- **Be very careful about product transportation.**
 - Only one person should not carry the product if it weighs more than 20 kg.
 - Some products use PP bands for packaging. Do not use any PP bands for a means of transportation. It is dangerous.
 - Do not touch the heat exchanger fins. Doing so may cut your fingers.
 - When transporting the outdoor unit, suspend it at the specified positions on the unit base. Also support the outdoor unit at four points so that it cannot slip sideways.
- **Safely dispose of the packing materials.**
 - Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.
 - Tear apart and throw away plastic packaging bags so that children will not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.

- Remote controller is not allowed to install for the place where direct sunshine strikes.

1.4. Before starting the test run

Caution:

- **Turn on the power at least 12 hours before starting operation.**
 - Starting operation immediately after turning on the main power switch can result in severe damage to internal parts. Keep the power switch turned on during the operational season.
- **Do not touch the switches with wet fingers.**
 - Touching a switch with wet fingers can cause electric shock.
- **Do not touch the refrigerant pipes during and immediately after operation.**
 - During and immediately after operation, the refrigerant pipes are may be hot and may be cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes.
- **Do not operate the air conditioner with the panels and guards removed.**
 - Rotating, hot, or high-voltage parts can cause injuries.
- **Do not turn off the power immediately after stopping operation.**
 - Always wait at least five minutes before turning off the power. Otherwise, water leakage and trouble may occur.
- **Do not operate the air conditioner without the air filter set place.**
 - Dust may accumulate, and cause a failure.
- **At emergency (if you smell something burning), stop operation and turn the power source switch off.**
 - Continuing the operation without eliminating the emergency state may cause a machine trouble, fire, or electric shock.
- **Remote controller should be pushed with finger.**
 - It occasionally causes the electric shock and the breakdown.

LINE UP

		PEH-7MYB	PEH-8MYB	PEH-10MYB
Cooling capacity (gross)	kW	18.8	22.0	28.8
	Btu/h	64,200	75,100	98,300
	kcal/h	16,200	19,000	24,800
Heating capacity	kW	20.1	22.0	28.8
	Btu/h	68,600	75,100	98,300
	kcal/h	17,300	19,000	24,800

Cooling: Indoor:27°CDB, 19°CWB; Outdoor: 35°CDB

Heating: Indoor:20°CDB; Outdoor: 7°CDB, 6°CWB

Cooling and Heating capacities are based 5m pipe length

MODEL-DESIGNATION BREAKDOWN

PEH-10 M Y B -EU

Service reference

Design Sequence

Electrical Supply

Y = 3 phase 380~415V 50Hz 4 wires

(In case of PEH-7, 8 Indoor unit
Y = 1 phase 220~240V 50Hz 2 wires)

Compressor Horsepower

7 = 7 HP

8 = 7.5 HP

10= 10 HP

Series Number

PEH = Indoor unit

PUH = Outdoor unit

SPECIFICATIONS

PEH-7~10MYB

Model name			PEH-7MYB	PEH-8MYB	PEH-10MYB
Service reference			PEH-7MYB-EU	PEH-8MYB-EU	PEH-10MYB-EU
Power supply	indoor		~ 220~240V 50Hz	~ 220~240V 50Hz	3N~ 380~415V 50Hz
	outdoor		3N~ 380~415V 50Hz	3N~ 380~415V 50Hz	3N~ 380~415V 50Hz
Total cooling capacity (Gross)	kW		18.8	22.0	28.8
	BTU/h		64,200	75,100	98,300
	kcal/h		16,200	19,000	24,800
Sensible cooling capacity (Gross)	kW		16.2	18.7	24.8
	BTU/h		55,300	63,800	84,600
	kcal/h		14,000	16,100	21,400
Total cooling capacity (Net)	kW		18.1	21.1	27.7
	BTU/h		61,800	72,000	94,500
	kcal/h		15,600	18,200	23,900
Total heating capacity (Net)	kW		20.1	22.0	28.8
	BTU/h		68,600	75,100	98,300
	kcal/h		17,300	19,000	24,800
Capacity step	%		0-100		
Refrigerant			R-22		
Refrigerant charge	kg		5.7	6.6	9.9
Refrigerant control			Capillary tube		
Indoor Unit	Model name		PEH-7MYB	PEH-8MYB	PEH-10MYB
	Service reference		PEH-7MYB-EU	PEH-8MYB-EU	PEH-10MYB-EU
External finish			Galvanized steel		
Dimension	Height	mm	428		
	Width	mm	1,380		1,580
	Depth	mm	650		
Net weight	kg		67	70	84
Indoor coil			Cross fin coil		
Indoor fan			Centrifugal (plastic) - Direct drive		
Indoor fan motor			Single phase induction motor		Three phase induction motor
Motor output	kw		0.21	0.4	1.0
Indoor fan air flow (Lo/Hi)	CMM		48/60	56/70	90
	CFM		1,695/2,119	1,978/2,472	3,179
	L/S		800/1,000	933/1,167	1,500
External static pressure	mmAq		12.5		15
	Pa		125		150
Sound pressure level	dB(A)		55	56	59
Drain connection	mm		25.4		
Outdoor unit	Model name		PUH-7MYF	PUH-8MYF	PUH-10MYF
	Service reference		PUH-7MYF-EUS	PUH-8MYF-EUS	PUH-10MYF-EUS
External finish			Acrylic resin coating		
Color			Munsell 5Y 8/1		
Dimension	Height	mm	1,480		
	Width	mm	1,180		
	Depth	mm	550 (※1 ; +92 <airoutlet guide>)		
Net weight	kg		188 (※1 ; +5 <airoutlet guide>)		221 (※1 ; +5 <airoutlet guide>)
Compressor			Hermetic line start		
Motor output	kw		5.0	5.5	7.5
Outdoor coil			Cross fin coil		
Outdoor fan			Propeller-direct drive		
Outdoor fan motor			Three phase induction motor		
Motor output	kw		2 X 0.09		2 X 0.15
Outdoor fan air flow	CMM		167		190
	CFM		5,898		6,711
	L/S		2,783		3,167
Sound pressure level (cool/heat)	dB(A)		59/59		59/60
Protection devices			High pressure switch, freeze & frost protection, fuse. Over current relay (comp. & indoor fan) Internal thermostat (comp. & indoor fan & outdoor fan)		

Note 1. Cooling and heating capacities are based on the following conditions.
Cooling : Indoor:27°CDB, 19°CWB ; Outdoor:35°CDB.
Heating : Indoor:20°CDB, ; Outdoor:7°CDB, 6°CWB.
Cooling and heating capacities are based 5m pipe length.
2. Refrigerant charge volumes are factory charged (at 5m piping length).
Refrigerant is enclosed with the outdoor unit.

3. The measuring point of the sound pressure level is 1m from the unit front surface.
4. (※1) value is shown with air outlet guide model.
5. Specification subject to change without notice.

ELECTRICAL DATA

PEH-7,8,10MYB

Cooling

VOLT	ITEM		PEH-7MYB	PEH-8MYB	PEH-10MYB
			PUH-7MYF	PUH-8MYF	PUH-10MYF
PEH-7,8 240V	TOTAL INPUT	kW	7.2	8.6	10.9
	TOTAL RUN CURRENT	A	15.0	18.0	19.5
	POWER FACTOR	%	-	-	78%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-7~10 415V	COMPRESSOR INPUT	kW	6.31	7.51	9.55
	RUN CURRENT	A	11.5	13.5	16.9
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.46	0.45	0.75
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.0	4.0	1.8
PEH-7,8 230V	TOTAL INPUT	kW	7.2	8.6	10.9
	TOTAL RUN CURRENT	A	15.2	18.0	19.6
	POWER FACTOR	%	-	-	80%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-7~10 400V	COMPRESSOR INPUT	kW	6.31	7.51	9.55
	RUN CURRENT	A	11.6	13.5	17.0
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.46	0.45	0.75
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.1	4.0	1.8
PEH-7,8 220V	TOTAL INPUT	kW	7.2	8.6	10.9
	TOTAL RUN CURRENT	A	15.4	18.2	19.8
	POWER FACTOR	%	-	-	84%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-~10 380V	COMPRESSOR INPUT	kW	6.31	7.51	9.55
	RUN CURRENT	A	11.7	13.6	17.1
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.47	0.46	0.75
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.2	4.1	1.9

Heating

VOLT	ITEM		PEH-7MYB	PEH-8MYB	PEH-10MYB
			PUH-7MYF	PUH-8MYF	PUH-10MYF
PEH-7,8 240V	TOTAL INPUT	kW	6.8	7.1	8.8
	TOTAL RUN CURRENT	A	14.3	15.9	16.8
	POWER FACTOR	%	-	-	72%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-7~10 415V	COMPRESSOR INPUT	kW	5.91	6.01	7.45
	RUN CURRENT	A	10.8	11.4	14.3
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.46	0.45	0.7
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.0	4.0	1.8
PEH-7,8 230V	TOTAL INPUT	kW	6.8	7.1	8.8
	TOTAL RUN CURRENT	A	14.4	15.9	16.8
	POWER FACTOR	%	-	-	74%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-7~10 400V	COMPRESSOR INPUT	kW	5.91	6.01	7.45
	RUN CURRENT	A	10.8	11.4	14.3
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.46	0.45	0.7
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.1	4.0	1.8
PEH-7,8 220V	TOTAL INPUT	kW	6.8	7.1	8.8
	TOTAL RUN CURRENT	A	14.5	16.0	16.9
	POWER FACTOR	%	-	-	78%
	START CURRENT	A	69.0	71.0	77.0
PEH-10 PUH-7~10 380V	COMPRESSOR INPUT	kW	5.91	6.01	7.45
	RUN CURRENT	A	10.8	11.4	14.3
	INDOOR side External static pressure	Pa	125	125	150
	O/D FAN INPUT	kW	0.19	0.19	0.25
	RUN CURRENT	A	0.47	0.46	0.7
	I/D FAN INPUT	kW	0.7	0.89	1.12
	RUN CURRENT	A	3.2	4.1	1.9

SELECTION PROCEDURE

1. Model Selection (With actual examples)

First step, to select the approximate model:

Based on the cooling load and the cooling capacity listed in the capacity table, select the applicable model.

Second step, to select the model:

To select the model, the following conditions must be known:

- (1) Total cooling load or sensible cooling load
- (2) Indoor conditioned temperature (WB*1, DB)
- (3) Designed outdoor temperature (DB)*2
- (4) Designed air flow
- (5) Designed external static pressure (= Wind pressure loss of air duct)*3

Notes:

- *1. The correct WB is required since it has a serious effect on the capacity.
- *2. The cooling capacity decreases as the outdoor temperature increases. Therefore, the estimated highest temperature during an air conditioning time frame is the "designed outdoor temperature". However, it is recommended that the abnormal outdoor temperature which may occur once or twice a year be excluded from the calculation to avoid selection of an excessively large capacity model.
- *3. The wind pressure loss of an air duct should be calculated correctly. If a value having an excessive allowance is used, an excessively large model will be selected. Moreover, an excessively high air flow will be induced during actual operation causing the generation of high operating sounds and carry-over of condensed water.

(Step-1) Confirmation of operation range

Confirm that the conditions given above for the model to be selected are within the operation range listed on Page 19.

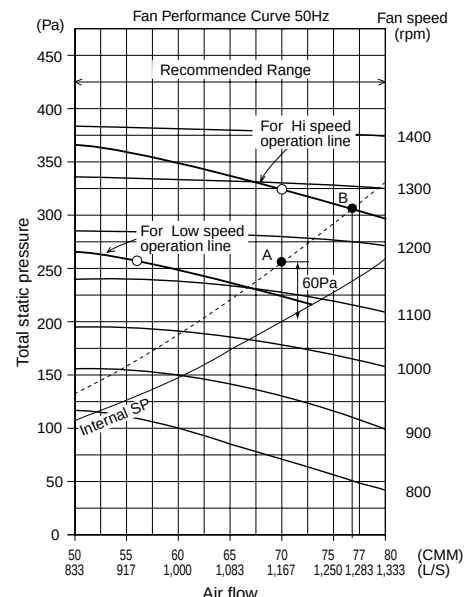
(Step-2) Calculation of actual air flow, external static pressure, and fan motor input

Based on the designed air flow and external static pressure, obtain the actual air flow, actual external static pressure, and fan motor power input from the fan performance table for the model selected. For an explanation of how to use the fan performance table, see the following examples.

Example: PEH-8MYB, 50Hz

Example 1. (To operate with values near to the designed air flow and external static pressure.)

- Condition : Designed air flow 70CMM
Designed external static pressure 60Pa
- Calculation : The designed point is A. Therefore, duct resistance line passing A is dotted line. Therefore, actual point is B for Hi speed operation line
Actual air flow = 77CMM
Actual external static pressure = 70Pa
- Note: Duct resistance line is secondary curve.



(Step-3) Calculation of net capacity

Based on the indoor conditioned temperature (WB,DB), designed outdoor temperature (DB), and the actual air flow obtained in Step-2, obtain the gross capacity from the gross capacity tables (pages 10, 11, 13, 14, 16, 17). Then, calculate the net capacity from the formula below by using the fan motor input obtained in Step-2.

$$\text{Net capacity (kW)} = \text{Gross capacity (kW)} - \text{Fan motor input (kW)}$$

Example: PEH-8MYB

Condition: Cooling

Indoor conditioned temp. : 26°CDB, 19°CWB

Designed outdoor temp. : 40°CDB

Actual air flow : 77CMM

Fan motor input : 0.89kW (See P.7)

Calculation :

The sections of the gross capacity table applicable for the above conditions are shown right.

At 26°CDB, 19°CWB of Indoor,
Q = 21.0, SHC = 16.2, T/I = 9.2

Therefore, when air flow is 77(CMM)

$$Q = 21.0 \times (1 + (1.025 - 1.0) \times 7/10^*) \div 21.4(\text{kW})$$

$$\text{SHC} = 16.2 \times (1 + (1.044 - 1.0) \times 7/10^*) \div 16.7(\text{kW})$$

$$\text{T/I} = 9.2 \times (1 + (1.009 - 1.0) \times 7/10^*) \div 9.3(\text{kW})$$

Therefore, the net capacity is,

$$\begin{aligned} \text{Net total cooling capacity} &= 21.4 (\text{kW}) - 0.89(\text{kW}) \\ &= 20.51 (\text{kW}) \end{aligned}$$

$$\begin{aligned} \text{Net sensible cooling capacity} &= 16.7 (\text{kW}) - 0.89 (\text{kW}) \\ &= 15.81 (\text{kW}) \end{aligned}$$

INDOOR DB°C	INDOOR WB°C	OUTDOOR DB°C			
		40.0			
		Q kW	SHC kW	SHF	T/I kW
		⋮	⋮	⋮	⋮
26	19	21.0	16.2	0.77	9.2
		⋮	⋮	⋮	⋮

Factor for Various Air Flow

PEH-8MYB	AIR VOLUME	CMM	60	70	80
	L/S	1,000	1,167	1,330	
COOLING	CAPACITY	0.976	1.0	1.025	
	TOTAL INPUT	0.991	1.0	1.009	

$$\text{Note } * : 7/10 = (77-70)/(80-70)$$

2. Efficiency Calculation

• Refrigerant cycle energy efficiency

$$(1) \text{ COP} = \frac{\text{Gross total cooling capacity (kW)}}{\text{Compressor input (kW)}}$$

$$(2) \text{ EER} = \frac{\text{Gross total cooling capacity (kW)}}{\text{Total input (kW)}}$$

• System energy efficiency

$$(1) \text{ COP} = \frac{\text{Net cooling capacity (kW)}}{\text{Compressor input (kW)}}$$

$$(2) \text{ EER} = \frac{\text{Net cooling capacity (kW)}}{\text{Total input (kW)}}$$

$$1\text{kW} = 3412\text{Btu/h}$$

Notes:

1. COP : Coefficient of performance

2. EER : Energy efficiency ratio

3. Temperature condition of COP, EER (ARI Standard Ratings)

Indoor entering air temp. : 80°FDB (=27°CDB), 66°FWB(=19°CWB)

Outdoor entering air temp. : 95°FDB (=35°CDB)

4. Total input = Compressor input + Indoor fan motor input + Outdoor fan motor input (page 7).

CAPACITY TABLES

Cooling Capacity (Standard Air Flow) ; PEH-7MYB-EU

Outdoor DB°C																																					
Indoor DB°C	Indoor WB°C	-5.0						0.0						5.0						10.0						15.0						20.0					
		Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	SHC kW	Q kW	SHF	T/I kW	
20	15	19.7	13.4	0.68	5.3	19.6	13.4	0.68	5.3	19.6	14.1	0.72	5.3	19.2	13.0	0.68	5.3	18.8	13.0	0.69	5.4	18.3	12.6	0.69	5.7												
	16	20.3	12.2	0.60	5.4	20.2	12.1	0.60	5.3	20.1	12.9	0.64	5.3	19.7	11.8	0.60	5.4	19.4	11.6	0.60	5.5	18.9	11.5	0.61	5.8												
	17	20.9	10.9	0.52	5.4	20.8	10.8	0.52	5.4	20.7	11.6	0.56	5.4	20.3	10.6	0.52	5.5	19.9	10.4	0.52	5.5	19.5	10.1	0.52	5.8												
22	15	19.7	15.6	0.79	5.3	19.6	15.5	0.79	5.3	19.6	16.4	0.84	5.3	19.2	15.3	0.80	5.3	18.8	15.0	0.80	5.4	18.3	14.7	0.80	5.7												
	16	20.3	14.4	0.71	5.4	20.2	14.3	0.71	5.3	20.1	15.3	0.76	5.3	19.7	14.2	0.72	5.4	19.4	13.9	0.72	5.5	18.9	13.6	0.72	5.8												
	17	20.9	13.1	0.63	5.4	20.8	13.1	0.63	5.4	20.7	13.9	0.67	5.4	20.3	12.8	0.63	5.5	19.9	12.8	0.64	5.5	19.5	12.5	0.64	5.8												
	18	21.4	12.0	0.56	5.4	21.3	11.9	0.56	5.4	21.2	12.7	0.60	5.4	20.9	11.7	0.56	5.5	20.5	11.5	0.56	5.6	20.0	11.4	0.57	5.9												
	19	22.2	10.9	0.49	5.5	22.1	10.8	0.49	5.5	22.0	11.7	0.53	5.5	21.6	10.6	0.49	5.6	21.2	10.4	0.49	5.7	20.8	10.2	0.49	6.0												
	16	20.3	16.6	0.82	5.4	20.2	16.6	0.82	5.3	20.1	17.3	0.86	5.3	19.7	16.4	0.83	5.4	19.4	16.3	0.84	5.5	18.9	16.1	0.85	5.8												
24	17	20.9	15.2	0.73	5.4	20.8	15.2	0.73	5.4	20.7	16.1	0.78	5.4	20.3	15.0	0.74	5.5	19.9	14.9	0.75	5.5	19.5	14.8	0.76	5.8												
	18	21.4	13.9	0.65	5.4	21.3	13.9	0.65	5.4	21.2	14.7	0.69	5.4	20.9	13.8	0.66	5.5	20.5	13.5	0.66	5.6	20.0	13.4	0.67	5.9												
	19	22.2	12.9	0.58	5.5	22.1	12.8	0.58	5.5	22.0	13.6	0.62	5.5	21.6	12.5	0.58	5.6	21.2	12.5	0.59	5.7	20.8	12.3	0.59	6.0												
	20	22.9	11.7	0.51	5.6	22.8	11.6	0.51	5.6	22.7	12.5	0.55	5.5	22.4	11.4	0.51	5.7	22.0	11.2	0.51	5.8	21.5	11.2	0.52	6.0												
	21	23.5	10.3	0.44	5.7	23.4	10.3	0.44	5.7	23.3	11.2	0.48	5.7	23.0	10.1	0.44	5.8	22.7	10.0	0.44	5.9	22.2	9.8	0.44	6.1												
	18	21.4	16.1	0.75	5.4	21.3	16.0	0.75	5.4	21.2	16.8	0.79	5.4	20.9	15.9	0.76	5.5	20.5	15.8	0.77	5.6	20.0	15.6	0.78	5.9												
26	19	22.2	15.1	0.68	5.5	22.1	15.0	0.68	5.5	22.0	15.6	0.71	5.5	21.6	14.7	0.68	5.6	21.2	14.7	0.69	5.7	20.8	14.5	0.70	6.0												
	20	22.9	13.8	0.60	5.6	22.8	13.7	0.60	5.6	22.7	14.6	0.64	5.5	22.4	13.6	0.61	5.7	22.0	13.4	0.61	5.8	21.5	13.3	0.62	6.0												
	21	23.5	12.7	0.54	5.7	23.4	12.6	0.54	5.7	23.3	13.3	0.57	5.7	23.0	12.4	0.54	5.8	22.7	12.5	0.55	5.9	22.2	12.2	0.55	6.1												
	22	24.1	11.3	0.47	5.8	24.0	11.3	0.47	5.8	23.9	12.2	0.51	5.8	23.6	11.3	0.48	5.9	23.3	11.2	0.48	6.0	22.8	11.0	0.48	6.2												
	23	24.6	10.1	0.41	6.0	24.5	10.1	0.41	5.9	24.4	10.8	0.44	5.9	24.2	9.9	0.41	6.0	24.0	10.1	0.42	6.1	23.5	9.9	0.42	6.3												
	19	22.2	17.3	0.78	5.5	22.1	17.2	0.78	5.5	22.0	18.0	0.82	5.5	21.6	16.9	0.78	5.6	21.2	16.6	0.78	5.7	20.8	16.6	0.80	6.0												
28	20	22.9	16.1	0.70	5.6	22.8	16.0	0.70	5.6	22.7	16.8	0.74	5.5	22.4	15.7	0.70	5.7	22.0	15.6	0.71	5.8	21.5	15.5	0.72	6.0												
	21	23.5	14.6	0.62	5.7	23.4	14.5	0.62	5.7	23.3	15.4	0.66	5.7	23.0	14.5	0.63	5.8	22.7	14.3	0.63	5.9	22.2	14.2	0.64	6.1												
	22	24.1	13.5	0.56	5.8	24.0	13.4	0.56	5.8	23.9	14.3	0.60	5.8	23.6	13.4	0.57	5.9	23.3	13.3	0.57	6.0	22.8	13.0	0.57	6.2												
	23	24.6	12.3	0.50	6.0	24.5	12.3	0.50	5.9	24.4	13.2	0.54	5.9	24.2	12.1	0.50	6.0	24.0	12.0	0.50	6.1	23.5	12.0	0.51	6.3												
	24	25.2	11.1	0.44	6.1	25.1	11.0	0.44	6.0	24.8	12.0	0.48	6.0	24.2	10.9	0.44	6.1	24.6	10.8	0.44	6.2	24.2	10.6	0.44	6.4												
	20	22.9	17.9	0.78	5.6	22.8	17.8	0.78	5.6	22.7	18.7	0.82	5.5	22.4	17.7	0.79	5.7	22.0	17.6	0.80	5.8	21.5	17.4	0.81	6.0												
30	21	23.5	16.9	0.72	5.7	23.4	16.9	0.72	5.7	23.3	17.5	0.75	5.7	23.0	16.5	0.72	5.8	22.7	16.5	0.73	5.9	22.2	16.4	0.74	6.1												
	22	24.1	15.6	0.65	5.8	24.0	15.6	0.65	5.8	23.9	16.5	0.69	5.8	23.6	15.3	0.65	5.9	23.3	15.2	0.65	6.0	22.8	15.1	0.66	6.2												
	23	24.6	14.5	0.59	6.0	24.5	14.5	0.59	5.9	24.4	15.2	0.62	5.9	24.2	14.3	0.59	6.0	24.0	14.1	0.59	6.1	23.5	14.1	0.60	6.3												
	24	25.2	13.1	0.52	6.1	25.1	13.1	0.52	6.0	25.0	14.0	0.56	6.0	24.8	12.9	0.52	6.1	24.6	12.8	0.52	6.2	24.2	12.8	0.53	6.4												

Factor for various air flow(Cooling)

Air volume	CMM				70
	50	60	833	1,000	
capacity input	L/S				1.167
	0.975	1.0	0.989	1.0	

Cooling Capacity (Standard Air Flow) ; PEH-7MYB-EU

Outdoor DB°C																										
Indoor DB°C	Indoor WB°C	25.0					30.0					35.0					40.0					46.0				
		Q kW	SHC kW	SHF	T/I kW	T/I kW	Q kW	SHC kW	SHF	T/I kW	T/I kW	Q kW	SHC kW	SHF	T/I kW	T/I kW	Q kW	SHC kW	SHF	T/I kW	T/I kW	Q kW	SHC kW	SHF	T/I kW	T/I kW
20	15	17.9	12.5	0.70	6.0	17.2	12.0	0.70	6.4	16.5	11.7	0.71	6.8	15.5	11.3	0.73	7.4	14.2	10.5	0.74	8.1					
	16	18.4	11.2	0.61	6.0	17.7	11.0	0.62	6.5	16.9	10.5	0.62	6.9	16.0	10.1	0.63	7.5	14.9	9.5	0.64	8.1					
	17	19.0	10.1	0.53	6.1	18.2	9.7	0.53	6.6	17.5	9.4	0.54	7.0	16.6	9.0	0.54	7.6	15.5	8.4	0.54	8.2					
22	15	17.9	14.5	0.81	6.0	17.2	14.1	0.82	6.4	16.5	13.9	0.84	6.8	15.5	13.5	0.87	7.4	14.2	12.6	0.89	8.1					
	16	18.4	13.4	0.73	6.0	17.7	13.1	0.74	6.5	16.9	12.7	0.75	6.9	16.0	12.3	0.77	7.5	14.9	11.7	0.79	8.1					
	17	19.0	12.3	0.65	6.1	18.2	12.0	0.66	6.6	17.5	11.7	0.67	7.0	16.6	11.3	0.68	7.6	15.5	10.7	0.69	8.2					
	18	19.6	11.1	0.57	6.2	18.8	10.9	0.58	6.6	18.0	10.5	0.58	7.1	17.2	10.1	0.59	7.6	16.2	9.7	0.60	8.3					
	19	20.3	9.9	0.49	6.3	19.6	9.6	0.49	6.7	18.8	9.4	0.50	7.2	18.0	9.2	0.51	7.7	16.9	8.8	0.52	8.4					
	16	18.4	15.8	0.86	6.0	17.7	15.6	0.88	6.5	16.9	15.1	0.89	6.9	16.0	14.7	0.92	7.5	14.9	14.0	0.94	8.1					
	17	19.0	14.6	0.77	6.1	18.2	14.2	0.78	6.6	17.5	14.0	0.80	7.0	16.6	13.6	0.82	7.6	15.5	13.0	0.84	8.2					
	18	19.6	13.3	0.68	6.2	18.8	13.0	0.69	6.6	18.0	12.6	0.70	7.1	17.2	12.4	0.72	7.6	16.2	11.8	0.73	8.3					
	19	20.3	12.2	0.60	6.3	19.6	11.9	0.61	6.7	18.8	11.7	0.62	7.2	18.0	11.3	0.63	7.7	16.9	11.0	0.65	8.4					
	20	21.1	10.9	0.52	6.3	20.3	10.8	0.53	6.8	19.6	10.6	0.54	7.3	18.7	10.3	0.55	7.8	17.7	9.9	0.56	8.4					
	21	21.7	9.6	0.44	6.4	21.0	9.5	0.45	6.9	20.3	9.3	0.46	7.4	19.5	9.0	0.46	7.9	18.4	8.7	0.47	8.5					
	18	19.6	15.4	0.79	6.2	18.8	15.0	0.80	6.6	18.0	14.8	0.82	7.1	17.2	14.4	0.84	7.6	16.2	13.9	0.86	8.3					
	19	20.3	14.2	0.70	6.3	19.6	14.1	0.72	6.7	18.8	13.7	0.73	7.2	18.0	13.5	0.75	7.7	16.9	13.0	0.77	8.4					
	20	21.1	13.1	0.62	6.3	20.3	12.8	0.63	6.8	19.6	12.7	0.65	7.3	18.7	12.3	0.66	7.8	17.7	12.0	0.68	8.4					
	21	21.7	11.9	0.55	6.4	21.0	11.8	0.56	6.9	20.3	11.6	0.57	7.4	19.5	11.3	0.58	7.9	18.4	10.9	0.59	8.5					
	22	22.4	10.7	0.48	6.5	21.7	10.6	0.49	6.9	21.1	10.5	0.50	7.4	20.2	10.1	0.50	8.0	19.2	9.8	0.51	8.6					
	23	23.0	9.4	0.41	6.6	22.4	9.4	0.42	7.0	21.8	9.4	0.43	7.5	21.0	9.0	0.43	8.1	19.9	8.4	0.42	8.7					
	19	20.3	16.6	0.82	6.3	19.6	16.4	0.84	6.7	18.8	16.2	0.86	7.2	18.0	15.8	0.88	7.7	16.9	15.4	0.91	8.4					
	20	21.1	15.6	0.74	6.3	20.3	15.2	0.75	6.8	19.6	15.1	0.77	7.3	18.7	14.8	0.79	7.8	17.7	14.3	0.81	8.4					
	21	21.7	14.1	0.65	6.4	21.0	14.1	0.67	6.9	20.3	13.8	0.68	7.4	19.5	13.4	0.69	7.9	18.4	13.1	0.71	8.5					
	22	22.4	13.0	0.58	6.5	21.7	12.8	0.59	6.9	21.1	12.8	0.61	7.4	20.2	12.5	0.62	8.0	19.2	12.1	0.63	8.6					
	23	23.0	11.7	0.51	6.6	22.4	11.7	0.52	7.0	21.8	11.6	0.53	7.5	21.0	11.5	0.55	8.1	19.9	11.2	0.56	8.7					
	24	23.7	10.4	0.44	6.6	23.1	10.4	0.45	7.1	22.6	10.4	0.46	7.5	21.7	10.2	0.47	8.1	20.7	10.1	0.49	8.9					
	20	21.1	17.3	0.82	6.3	20.3	17.1	0.84	6.8	19.6	16.8	0.86	7.3	18.7	16.6	0.89	7.8	17.7	16.4	0.93	8.4					
	21	21.7	16.3	0.75	6.4	21.0	16.0	0.76	6.9	20.3	15.8	0.78	7.4	19.5	15.8	0.81	7.9	18.4	15.3	0.83	8.5					
	22	22.4	15.0	0.67	6.5	21.7	15.0	0.69	6.9	21.1	14.7	0.70	7.4	20.2	14.6	0.72	8.0	19.2	14.2	0.74	8.6					
	23	23.0	14.0	0.61	6.6	22.4	13.9	0.62	7.0	21.8	13.7	0.63	7.5	21.0	13.6	0.65	8.1	19.9	13.2	0.66	8.7					
	24	23.7	12.8	0.54	6.6	23.1	12.7	0.55	7.1	22.6	12.6	0.56	7.5	21.7	12.6	0.58	8.1	20.7	12.2	0.59	8.9					

Heating Capacity (Standard Air Flow) ; PEH-7MYB-EU

	Outdoor WB°C											
	-15. 0			-10. 0			-5. 0			0. 0		
	Q	T/l	T/l	Q	T/l	T/l	Q	T/l	T/l	Q	T/l	T/l
Indoor DB°C	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
15	13.3	4.1	4.6	16.6	5.2	5.2	18.5	5.7	6.3	20.7	6.8	7.1
16	13.1	4.2	4.7	16.4	5.2	5.2	18.3	5.8	6.3	20.5	6.9	7.2
17	12.9	4.3	4.8	16.2	5.3	5.3	18.1	5.9	6.4	20.3	7.0	7.3
18	12.8	4.4	4.8	16.0	5.4	5.4	17.9	6.0	6.5	20.1	7.1	7.4
19	12.6	4.4	4.9	15.9	5.5	5.5	17.7	6.0	6.6	19.9	7.2	7.5
20	12.5	4.5	5.0	15.7	5.5	5.5	17.5	6.1	6.7	19.7	7.3	7.6
21	12.3	4.6	5.0	15.5	5.6	5.6	17.3	6.2	6.8	19.5	7.4	7.8
22	12.2	4.7	5.1	15.3	5.7	5.7	17.1	6.3	6.9	19.4	7.5	7.9
23	12.1	4.8	5.2	15.1	5.8	5.8	16.9	6.4	7.0	19.2	7.6	8.0
24	12.0	4.9	5.3	14.9	5.9	5.9	16.7	6.5	7.1	19.1	7.8	8.2
25	11.9	5.0	5.4	14.7	6.0	6.0	16.5	6.6	7.2	18.9	7.9	8.3
26	11.7	5.1	5.5	14.5	6.1	6.1	16.3	6.7	7.4	18.7	8.0	8.4
27	11.6	5.2	5.5	14.3	6.2	6.2	16.1	6.8	7.5	18.6	8.1	8.6

Reduction ratio by frosting		Heating capacity reduction ratio
outdoor WB°C		
6		
4		
2		
0		
-2		
-4		
-6		
-8		
-10		
-12		
-15		

Factor for various air flow(Cooling)					
Air volume	CMM	50	60	70	
capacity input	L/S	833	1,000	1,167	
		0.980	1.0	1.011	
		1.028	1.0	0.980	

Cooling Capacity (Standard Air Flow) ; PEH-8MYB-EU

		Outdoor DB°C																							
Indoor DB°C	Indoor WB°C	-5.0				0.0				5.0				10.0				15.0				20.0			
		Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW
20	15	23.1	15.9	0.69	6.4	23.0	15.9	0.69	6.3	22.9	15.6	0.68	6.3	22.4	15.5	0.69	6.4	22.0	15.2	0.69	6.4	21.5	15.0	0.70	6.8
	16	23.8	14.5	0.61	6.4	23.7	14.4	0.61	6.4	23.5	14.4	0.61	6.4	23.1	14.1	0.61	6.4	22.7	14.0	0.62	6.5	22.1	13.7	0.62	6.9
	17	24.4	12.9	0.53	6.4	24.3	12.9	0.53	6.4	24.2	12.8	0.53	6.4	23.8	12.8	0.54	6.5	23.3	12.6	0.54	6.6	22.8	12.5	0.55	7.0
22	15	23.1	18.5	0.80	6.4	23.0	18.4	0.80	6.3	22.9	18.3	0.80	6.3	22.4	18.2	0.81	6.4	22.0	17.8	0.81	6.4	21.5	17.6	0.82	6.8
	16	23.8	17.1	0.72	6.4	23.7	17.0	0.72	6.4	23.5	17.2	0.73	6.4	23.1	16.6	0.72	6.4	22.7	16.3	0.72	6.5	22.1	16.1	0.73	6.9
	17	24.4	15.6	0.64	6.4	24.3	15.8	0.65	6.4	24.2	15.7	0.65	6.4	23.8	15.2	0.64	6.5	23.3	14.7	0.63	6.6	22.8	14.8	0.65	7.0
24	18	25.1	14.5	0.58	6.5	25.0	14.5	0.58	6.5	24.9	14.4	0.58	6.4	24.4	14.2	0.58	6.6	24.0	13.7	0.57	6.7	23.4	13.6	0.58	7.0
	19	26.0	13.2	0.51	6.6	25.9	13.2	0.51	6.5	25.7	13.1	0.51	6.5	25.3	12.9	0.51	6.7	24.9	12.7	0.51	6.8	24.3	12.4	0.51	7.1
	16	23.8	20.2	0.85	6.4	23.7	20.1	0.85	6.4	23.5	19.8	0.84	6.4	23.1	19.6	0.85	6.4	22.7	19.3	0.85	6.5	22.1	19.0	0.86	6.9
26	17	24.4	18.6	0.76	6.4	24.3	18.5	0.76	6.4	24.2	18.4	0.76	6.4	23.8	18.3	0.77	6.5	23.3	18.0	0.77	6.6	22.8	17.8	0.78	7.0
	18	25.1	16.8	0.67	6.5	25.0	17.0	0.68	6.5	24.9	16.9	0.68	6.4	24.4	16.8	0.69	6.6	24.0	16.5	0.69	6.7	23.4	16.4	0.70	7.0
	19	26.0	15.6	0.60	6.6	25.9	15.5	0.60	6.5	25.7	15.4	0.60	6.5	25.3	15.4	0.61	6.7	24.9	15.4	0.62	6.8	24.3	15.1	0.62	7.1
28	20	26.8	14.2	0.53	6.7	26.7	14.2	0.53	6.6	26.6	13.8	0.52	6.6	26.2	13.9	0.53	6.7	25.7	13.9	0.54	6.9	25.2	13.6	0.54	7.2
	21	27.5	12.7	0.46	6.8	27.4	12.3	0.45	6.8	27.3	12.0	0.44	6.7	26.9	12.4	0.46	6.9	26.5	12.5	0.47	7.0	26.0	11.9	0.46	7.3
	18	25.1	19.6	0.78	6.5	25.0	19.2	0.77	6.5	24.9	18.6	0.75	6.4	24.4	18.8	0.77	6.6	24.0	18.9	0.79	6.7	23.4	18.7	0.80	7.0
30	19	26.0	18.4	0.71	6.6	25.9	18.1	0.70	6.5	25.7	17.8	0.69	6.5	25.3	17.7	0.70	6.7	24.9	17.7	0.71	6.8	24.3	17.5	0.72	7.1
	20	26.8	16.9	0.63	6.7	26.7	16.8	0.63	6.6	26.6	16.8	0.63	6.6	26.2	16.5	0.63	6.7	25.7	16.2	0.63	6.9	25.2	16.1	0.64	7.2
	21	27.5	15.7	0.57	6.8	27.4	15.6	0.57	6.8	27.3	15.3	0.56	6.7	26.9	15.1	0.56	6.9	26.5	14.8	0.56	7.0	26.0	14.8	0.57	7.3
32	22	28.2	14.1	0.50	7.0	28.1	14.0	0.50	6.9	27.9	13.7	0.49	6.9	27.6	13.5	0.49	7.0	27.3	13.4	0.49	7.1	26.7	13.4	0.50	7.4
	23	28.8	12.7	0.44	7.1	28.7	12.3	0.43	7.1	28.6	12.0	0.42	7.0	28.3	11.9	0.42	7.1	28.1	11.8	0.42	7.3	27.5	11.8	0.43	7.5
	19	26.0	20.8	0.80	6.6	25.9	20.7	0.80	6.5	25.7	20.6	0.80	6.5	25.3	20.5	0.81	6.7	24.9	20.1	0.81	6.8	24.3	19.9	0.82	7.1
34	20	26.8	19.6	0.73	6.7	26.7	19.5	0.73	6.6	26.6	19.7	0.74	6.6	26.2	19.4	0.74	6.7	25.7	19.0	0.74	6.9	25.2	18.9	0.75	7.2
	21	27.5	18.2	0.66	6.8	27.4	18.4	0.67	6.8	27.3	18.3	0.67	6.7	26.9	18.0	0.67	6.9	26.5	17.8	0.67	7.0	26.0	17.7	0.68	7.3
	22	28.2	16.9	0.60	7.0	28.1	16.8	0.60	6.9	27.9	16.8	0.60	6.9	27.6	16.6	0.60	7.0	27.3	16.4	0.60	7.1	26.7	16.3	0.61	7.4
36	23	28.8	15.3	0.53	7.1	28.7	15.2	0.53	7.1	28.6	15.2	0.53	7.0	28.3	15.0	0.53	7.1	28.1	14.9	0.53	7.3	27.5	14.9	0.54	7.5
	24	29.5	13.9	0.47	7.3	29.4	13.8	0.47	7.2	29.3	13.5	0.46	7.1	29.0	13.4	0.46	7.3	28.8	13.3	0.46	7.4	28.3	13.3	0.47	7.6
	20	26.8	22.0	0.82	6.7	26.7	22.2	0.83	6.6	26.6	22.1	0.83	6.6	26.2	22.0	0.84	6.7	25.7	21.6	0.84	6.9	25.2	21.7	0.86	7.2
38	21	27.5	20.6	0.75	6.8	27.4	20.8	0.76	6.8	27.3	20.7	0.76	6.7	26.9	20.4	0.76	6.9	26.5	20.4	0.77	7.0	26.0	20.2	0.78	7.3
	22	28.2	19.1	0.68	7.0	28.1	19.1	0.68	6.9	27.9	19.0	0.68	6.9	27.6	19.1	0.69	7.0	27.3	18.8	0.69	7.1	26.7	18.7	0.70	7.4
	23	28.8	17.9	0.62	7.1	28.7	17.8	0.62	7.1	28.6	17.7	0.62	7.0	28.3	17.6	0.62	7.1	28.1	17.4	0.62	7.3	27.5	17.3	0.63	7.5
40	24	29.5	16.2	0.55	7.3	29.4	16.2	0.55	7.2	29.3	16.1	0.55	7.1	29.0	16.0	0.55	7.3	28.8	15.9	0.55	7.4	28.3	15.8	0.56	7.6

Factor for various air flow(Cooling)

Air volume	CMM		
	60	70	80
capacity	1,000	1,167	1,333
	L/S		
input	0.976	1.0	1.025
	0.991	1.0	1.009

Cooling Capacity (Standard Air Flow) ; PEH-8MYB-EU

Outdoor DB°C																										
Indoor DB°C	Indoor WB°C	25.0					30.0					35.0					40.0					46.0				
		Q kW	SHC kW	SHF	T/I kW	T/I	Q kW	SHC kW	SHF	T/I kW	T/I	Q kW	SHC kW	SHF	T/I kW	T/I	Q kW	SHC kW	SHF	T/I kW	T/I	Q kW	SHC kW	SHF	T/I kW	T/I
20	15	20.9	14.8	0.71	7.1	20.1	14.5	0.72	7.6	19.4	14.1	0.73	8.2	18.1	13.4	0.74	8.8	16.6	12.5	0.75	9.6	16.6	12.5	0.75	9.6	
	16	21.6	13.6	0.63	7.2	20.7	13.0	0.63	7.7	19.8	12.5	0.63	8.2	18.7	12.2	0.65	8.9	17.4	11.5	0.66	9.7	17.4	11.5	0.66	9.7	
	17	22.2	12.2	0.55	7.3	21.3	11.7	0.55	7.8	20.5	11.0	0.54	8.3	19.4	10.7	0.55	9.0	18.2	10.3	0.57	9.8	18.2	10.3	0.57	9.8	
22	15	20.9	17.3	0.83	7.1	20.1	17.1	0.85	7.6	19.4	16.8	0.87	8.2	18.1	15.9	0.88	8.8	16.6	14.8	0.89	9.6	16.6	14.8	0.89	9.6	
	16	21.6	16.2	0.75	7.2	20.7	15.7	0.76	7.7	19.8	15.2	0.77	8.2	18.7	14.6	0.78	8.9	17.4	13.7	0.79	9.8	17.4	13.7	0.79	9.8	
	17	22.2	14.7	0.66	7.3	21.3	14.3	0.67	7.8	20.5	13.7	0.67	8.3	19.4	13.2	0.68	9.0	18.2	12.7	0.70	9.8	18.2	12.7	0.70	9.8	
24	18	22.9	13.5	0.59	7.4	22.0	13.0	0.59	7.9	21.1	12.7	0.60	8.4	20.1	12.3	0.61	9.1	18.9	11.7	0.62	9.9	18.9	11.7	0.62	9.9	
	19	23.8	12.1	0.51	7.5	22.9	11.9	0.52	8.0	22.0	11.4	0.52	8.6	21.0	11.1	0.53	9.2	19.8	10.7	0.54	10.0	19.8	10.7	0.54	10.0	
	16	21.6	18.8	0.87	7.2	20.7	18.4	0.89	7.7	19.8	17.8	0.90	8.2	18.7	17.2	0.92	8.9	17.4	16.3	0.94	9.7	17.4	16.3	0.94	9.7	
26	17	22.2	17.6	0.79	7.3	21.3	17.1	0.80	7.8	20.5	16.6	0.81	8.3	19.4	16.1	0.83	9.0	18.2	15.2	0.84	9.8	18.2	15.2	0.84	9.8	
	18	22.9	16.0	0.70	7.4	22.0	15.6	0.71	7.9	21.1	15.2	0.72	8.4	20.1	14.9	0.74	9.1	18.9	14.2	0.75	9.9	18.9	14.2	0.75	9.9	
	19	23.8	14.7	0.62	7.5	22.9	14.4	0.63	8.0	22.0	14.1	0.64	8.6	21.0	13.7	0.65	9.2	19.8	13.1	0.66	10.0	19.8	13.1	0.66	10.0	
28	20	24.6	13.3	0.54	7.6	23.8	13.1	0.55	8.2	22.9	12.6	0.55	8.8	21.9	12.3	0.56	9.4	20.7	11.8	0.57	10.1	20.7	11.8	0.57	10.1	
	21	25.4	11.7	0.46	7.6	24.6	11.3	0.46	8.2	23.8	11.2	0.47	8.8	22.8	10.7	0.47	9.4	21.6	10.3	0.48	10.2	21.6	10.3	0.48	10.2	
	18	22.9	18.3	0.80	7.4	22.0	18.0	0.82	7.9	21.1	17.5	0.83	8.4	20.1	17.1	0.85	9.1	18.9	16.3	0.86	9.9	18.9	16.3	0.86	9.9	
30	19	23.8	17.3	0.73	7.5	22.9	16.9	0.74	8.0	22.0	16.5	0.75	8.6	21.0	16.2	0.77	9.2	19.8	15.4	0.78	10.0	19.8	15.4	0.78	10.0	
	20	24.6	16.0	0.65	7.6	23.8	15.7	0.66	8.2	22.9	15.3	0.67	8.8	21.9	15.1	0.69	9.4	20.7	14.5	0.70	10.1	20.7	14.5	0.70	10.1	
	21	25.4	14.7	0.58	7.6	24.6	14.3	0.58	8.2	23.8	14.0	0.59	8.8	22.8	13.7	0.60	9.4	21.6	13.2	0.61	10.2	21.6	13.2	0.61	10.2	
32	22	26.2	13.1	0.50	7.7	25.4	13.0	0.51	8.3	24.6	12.6	0.51	8.8	23.7	12.3	0.52	9.5	22.4	11.7	0.52	10.3	22.4	11.7	0.52	10.3	
	23	27.0	11.6	0.43	7.8	26.2	11.3	0.43	8.4	25.5	11.0	0.43	8.9	24.5	10.5	0.43	9.6	23.3	10.0	0.43	10.4	23.3	10.0	0.43	10.4	
	19	23.8	19.7	0.83	7.5	22.9	19.2	0.84	8.0	22.0	18.7	0.85	8.6	21.0	18.5	0.88	9.2	19.8	18.0	0.91	10.0	19.8	18.0	0.91	10.0	
34	20	24.6	18.7	0.76	7.6	23.8	18.3	0.77	8.2	22.9	17.8	0.78	8.8	21.9	17.5	0.80	9.4	20.7	17.2	0.83	10.1	20.7	17.2	0.83	10.1	
	21	25.4	17.3	0.68	7.6	24.6	17.0	0.69	8.2	23.8	16.6	0.70	8.8	22.8	16.6	0.73	9.4	21.6	16.2	0.75	10.2	21.6	16.2	0.75	10.2	
	22	26.2	16.0	0.61	7.7	25.4	15.8	0.62	8.3	24.6	15.5	0.63	8.8	23.7	15.1	0.64	9.5	22.4	14.8	0.66	10.3	22.4	14.8	0.66	10.3	
36	23	27.0	14.6	0.54	7.8	26.2	14.4	0.55	8.4	25.5	14.0	0.55	8.9	24.5	13.7	0.56	9.6	23.3	13.3	0.57	10.4	23.3	13.3	0.57	10.4	
	24	27.7	13.0	0.47	7.9	27.1	13.0	0.48	8.4	26.4	12.7	0.48	8.9	25.4	12.2	0.48	9.7	24.2	11.6	0.48	10.6	24.2	11.6	0.48	10.6	
	20	24.6	21.4	0.87	7.6	23.8	21.1	0.89	8.2	22.9	20.6	0.90	8.8	21.9	20.1	0.92	9.4	20.7	19.2	0.93	10.1	20.7	19.2	0.93	10.1	
38	21	25.4	20.1	0.79	7.6	24.6	19.7	0.80	8.2	23.8	19.5	0.82	8.8	22.8	18.9	0.83	9.4	21.6	18.3	0.85	10.2	21.6	18.3	0.85	10.2	
	22	26.2	18.3	0.70	7.7	25.4	18.3	0.72	8.3	24.6	18.0	0.73	8.8	23.7	17.7	0.75	9.5	22.4	17.3	0.77	10.3	22.4	17.3	0.77	10.3	
	23	27.0	17.2	0.64	7.8	26.2	17.1	0.65	8.4	25.5	17.1	0.67	8.9	24.5	16.9	0.69	9.6	23.3	16.6	0.71	10.4	23.3	16.6	0.71	10.4	
40	24	27.7	15.8	0.57	7.9	27.1	16.0	0.59	8.4	26.4	16.1	0.61	8.9	25.4	16.0	0.63	9.7	24.2	15.7	0.65	10.6	24.2	15.7	0.65	10.6	

Factor for various air flow(Cooling)

Air volume	CMM			
	60	70	80	
capacity	L/S	1.000	1.167	1.333
		0.976	1.0	1.025
input		0.991	1.0	1.009

Heating Capacity (Standard Air Flow) ; PEH-8MYB-EU

	Outdoor WB°C													
	-15.0		-10.0		-5.0		0.0		5.0		10.0		15.0	
	Q kW	T/l kW	Q kW	T/l kW	Q kW	T/l kW	Q kW	T/l kW	Q kW	T/l kW	Q kW	T/l kW	Q kW	T/l kW
Indoor DB°C														
15	14.5	4.3	16.1	4.8	18.2	5.4	20.2	6.0	22.7	6.5	25.1	7.1	28.2	7.4
16	14.3	4.4	15.9	4.9	18.0	5.5	20.0	6.0	22.4	6.6	24.9	7.2	27.9	7.5
17	14.2	4.5	15.7	5.0	17.8	5.5	19.8	6.1	22.2	6.7	24.6	7.3	27.7	7.6
18	14.0	4.5	15.5	5.0	17.6	5.6	19.6	6.2	22.0	6.8	24.4	7.4	27.5	7.7
19	13.8	4.6	15.4	5.1	17.4	5.7	19.4	6.3	21.8	6.9	24.2	7.5	27.3	7.8
20	13.6	4.7	15.2	5.2	17.2	5.8	19.1	6.4	21.5	7.0	24.0	7.6	27.1	7.9
21	13.5	4.8	15.0	5.3	16.9	5.9	18.9	6.5	21.4	7.1	23.8	7.7	26.8	8.1
22	13.4	4.9	14.7	5.3	16.7	6.0	18.7	6.6	21.2	7.2	23.7	7.8	26.6	8.2
23	13.2	5.0	14.5	5.4	16.5	6.1	18.5	6.7	21.0	7.3	23.6	8.0	26.4	8.4
24	13.1	5.1	14.3	5.5	16.3	6.1	18.3	6.8	20.9	7.4	23.5	8.1	26.2	8.5
25	13.0	5.2	14.1	5.6	16.1	6.2	18.0	6.9	20.7	7.6	23.3	8.2	26.0	8.6
26	12.8	5.4	13.9	5.7	15.8	6.3	17.8	7.0	20.5	7.7	23.2	8.4	25.7	8.8
27	12.7	5.5	13.6	5.8	15.6	6.4	17.6	7.1	20.3	7.8	23.1	8.5	25.5	8.9

Reduction ratio by frosting

outdoor WB°C	Heating capacity reduction ratio
6	1.0
4	0.98
2	0.88
0	0.85
-2	0.86
-4	0.89
-6	0.92
-8	0.92
-10	0.92
-12	0.92
-15	0.92

Factor for various air flow(Cooling)

Air volume	CMM	60	70	80
	L/S	1,000	1,167	1,333
capacity		0.989	1.0	1.011
input		1.010	1.0	0.987

Cooling Capacity (Standard Air Flow) ; PEH-10MYB-EU

Outdoor DB°C																															
Indoor DB°C	Indoor WB°C	-5.0					0.0					5.0					10.0					15.0					20.0				
		Q kW	SHC kW	SHF	T/I kW	SHF	Q kW	SHC kW	SHF	T/I kW	SHF	Q kW	SHC kW	SHF	T/I kW	SHF	Q kW	SHC kW	SHF	T/I kW	SHF	Q kW	SHC kW	SHF	T/I kW	SHF	Q kW	SHC kW	SHF	T/I kW	
20	15	30.2	20.9	0.69	8.1	30.1	20.8	0.69	8.0	30.0	20.7	0.69	8.0	29.4	20.6	0.70	8.1	28.8	20.2	0.70	8.2	28.1	19.9	0.71	8.6						
	16	31.1	19.0	0.61	8.1	31.0	18.9	0.61	8.1	30.8	18.8	0.61	8.1	30.2	18.7	0.62	8.2	29.7	18.7	0.63	8.3	28.9	18.2	0.63	8.7						
	17	32.0	17.3	0.54	8.2	31.8	17.2	0.54	8.2	31.7	17.1	0.54	8.1	31.1	16.8	0.54	8.3	30.5	16.8	0.55	8.4	29.8	16.7	0.56	8.8						
22	15	30.2	23.9	0.79	8.1	30.1	23.8	0.79	8.0	30.0	23.7	0.79	8.0	29.4	23.5	0.80	8.1	28.8	23.0	0.80	8.2	28.1	22.7	0.81	8.6						
	16	31.1	22.1	0.71	8.1	31.0	22.3	0.72	8.1	30.8	22.2	0.72	8.1	30.2	21.8	0.72	8.2	29.7	21.7	0.73	8.3	28.9	21.4	0.74	8.7						
	17	32.0	20.5	0.64	8.2	31.8	20.4	0.64	8.2	31.7	20.6	0.65	8.1	31.1	20.2	0.65	8.3	30.5	19.8	0.65	8.4	29.8	19.7	0.66	8.8						
24	18	32.8	18.7	0.57	8.2	32.7	19.0	0.58	8.2	32.5	18.9	0.58	8.2	32.0	18.5	0.58	8.4	31.4	18.2	0.58	8.5	30.7	18.1	0.59	9.0						
	19	34.0	17.3	0.51	8.4	33.8	17.3	0.51	8.3	33.7	17.2	0.51	8.3	33.1	16.9	0.51	8.5	32.5	16.6	0.51	8.6	31.8	16.2	0.51	9.1						
	16	31.1	25.5	0.82	8.1	31.0	25.4	0.82	8.1	30.8	25.6	0.83	8.1	30.2	25.1	0.83	8.2	29.7	24.9	0.84	8.3	28.9	24.6	0.85	8.7						
26	17	32.0	23.7	0.74	8.2	31.8	23.9	0.75	8.2	31.7	23.8	0.75	8.1	31.1	23.3	0.75	8.3	30.5	23.2	0.76	8.4	29.8	23.0	0.77	8.8						
	18	32.8	22.0	0.67	8.2	32.7	21.9	0.67	8.2	32.5	21.8	0.67	8.2	32.0	21.4	0.67	8.4	31.4	21.3	0.68	8.5	30.7	20.9	0.68	9.0						
	19	34.0	20.4	0.60	8.4	33.8	20.3	0.60	8.3	33.7	20.2	0.60	8.3	33.1	19.9	0.60	8.5	32.5	19.9	0.61	8.6	31.8	19.4	0.61	9.1						
28	20	35.1	18.6	0.53	8.5	35.0	18.5	0.53	8.4	34.8	18.5	0.53	8.4	34.3	18.2	0.53	8.6	33.7	18.2	0.54	8.7	33.0	17.8	0.54	9.2						
	21	36.0	16.6	0.46	8.7	35.9	16.5	0.46	8.6	35.7	16.4	0.46	8.6	35.2	16.2	0.46	8.7	34.7	16.3	0.47	8.9	34.0	16.0	0.47	9.3						
	18	32.8	25.0	0.76	8.2	32.7	24.8	0.76	8.2	32.5	24.7	0.76	8.2	32.0	24.3	0.76	8.4	31.4	24.2	0.77	8.5	30.7	23.9	0.78	9.0						
30	19	34.0	23.4	0.69	8.4	33.8	23.3	0.69	8.3	33.7	23.3	0.69	8.3	33.1	22.9	0.69	8.5	32.5	22.5	0.69	8.6	31.8	22.3	0.70	9.1						
	20	35.1	21.8	0.62	8.5	35.0	21.7	0.62	8.4	34.8	21.6	0.62	8.4	34.3	21.2	0.62	8.6	33.7	20.9	0.62	8.7	33.0	20.8	0.63	9.2						
	21	36.0	20.2	0.56	8.7	35.9	20.1	0.56	8.6	35.7	20.0	0.56	8.6	35.2	19.7	0.56	8.7	34.7	19.4	0.56	8.9	34.0	19.4	0.57	9.3						
32	22	36.9	18.4	0.50	8.8	36.7	18.4	0.50	8.8	36.6	18.3	0.50	8.7	36.1	18.1	0.50	8.9	35.7	17.9	0.50	9.1	35.0	17.5	0.50	9.4						
	23	37.7	16.6	0.44	9.0	37.6	16.5	0.44	9.0	37.4	16.5	0.44	8.9	37.1	16.3	0.44	9.1	36.7	16.2	0.44	9.2	36.0	15.8	0.44	9.6						
	19	34.0	26.8	0.79	8.4	33.8	26.7	0.79	8.3	33.7	26.6	0.79	8.3	33.1	26.2	0.79	8.5	32.5	26.0	0.80	8.6	31.8	25.8	0.81	9.1						
34	20	35.1	24.9	0.71	8.5	35.0	25.2	0.72	8.4	34.8	25.1	0.72	8.4	34.3	24.7	0.72	8.6	33.7	24.3	0.72	8.7	33.0	24.1	0.73	9.2						
	21	36.0	23.0	0.64	8.7	35.9	22.9	0.64	8.6	35.7	23.2	0.65	8.6	35.2	22.9	0.65	8.7	34.7	22.6	0.65	8.9	34.0	22.4	0.66	9.3						
	22	36.9	21.4	0.58	8.8	36.7	21.7	0.59	8.8	36.6	21.6	0.59	8.7	36.1	21.3	0.59	8.9	35.7	21.1	0.59	9.1	35.0	21.0	0.60	9.4						
36	23	37.7	20.0	0.53	9.0	37.6	19.9	0.53	9.0	37.4	19.8	0.53	8.9	37.1	19.7	0.53	9.1	36.7	19.5	0.53	9.2	36.0	19.1	0.53	9.6						
	24	38.6	18.1	0.47	9.2	38.4	18.1	0.47	9.1	38.3	18.0	0.47	9.1	38.0	17.9	0.47	9.2	37.7	17.7	0.47	9.4	37.0	17.4	0.47	9.7						
	20	35.1	27.8	0.79	8.5	35.0	27.6	0.79	8.4	34.8	27.5	0.79	8.4	34.3	27.1	0.79	8.6	33.7	27.0	0.80	8.7	33.0	26.7	0.81	9.2						
38	21	36.0	26.3	0.73	8.7	35.9	26.2	0.73	8.6	35.7	26.1	0.73	8.6	35.2	25.7	0.73	8.7	34.7	25.7	0.74	8.9	34.0	25.5	0.75	9.3						
	22	36.9	24.7	0.67	8.8	36.7	24.6	0.67	8.8	36.6	24.5	0.67	8.7	36.1	24.2	0.67	8.9	35.7	24.3	0.68	9.1	35.0	23.8	0.68	9.4						
	23	37.7	23.0	0.61	9.0	37.6	22.9	0.61	9.0	37.4	22.8	0.61	8.9	37.1	22.6	0.61	9.1	36.7	22.8	0.62	9.2	36.0	22.3	0.62	9.6						
40	24	38.6	21.2	0.55	9.2	38.4	21.1	0.55	9.1	38.3	21.1	0.55	9.1	38.0	20.9	0.55	9.2	37.7	21.1	0.56	9.4	37.0	20.7	0.56	9.7						

Factor for various air flow(Cooling)

Air volume	CMM		
	80	90	100
capacity	1.333	1.500	1.666
	L/S	L/S	L/S
input	0.977	1.0	1.035
	0.991	1.0	1.005

Cooling Capacity (Standard Air Flow) ; PEH-10MYB-EU

		Outdoor DB°C																							
Indoor DB°C	Indoor WB°C	25.0				30.0				35.0				40.0				46.0							
		Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW	Q kW	SHC kW	SHF	T/I kW
20	15	27.4	19.4	0.71	9.1	26.4	19.0	0.72	9.7	25.3	18.2	0.72	10.4	23.7	17.5	0.74	11.2	21.7	16.3	0.75	12.2	21.7	16.3	0.75	12.2
	16	28.2	18.1	0.64	9.2	27.1	17.3	0.64	9.8	25.9	16.6	0.64	10.5	24.5	15.9	0.65	11.4	22.8	15.0	0.66	12.3	22.8	15.0	0.66	12.3
	17	29.1	16.3	0.56	9.3	27.9	15.6	0.56	9.9	26.8	15.0	0.56	10.6	25.4	14.5	0.57	11.5	23.8	13.5	0.57	12.4	23.8	13.5	0.57	12.4
22	15	27.4	22.4	0.82	9.1	26.4	22.1	0.84	9.7	25.3	21.5	0.85	10.4	23.7	20.6	0.87	11.2	21.7	19.4	0.89	12.2	21.7	19.4	0.89	12.2
	16	28.2	21.2	0.75	9.2	27.1	20.6	0.76	9.8	25.9	20.0	0.77	10.5	24.5	19.1	0.78	11.4	22.8	18.2	0.80	12.3	22.8	18.2	0.80	12.3
	17	29.1	19.5	0.67	9.3	27.9	19.0	0.68	9.9	26.8	18.2	0.68	10.6	25.4	17.8	0.70	11.5	23.8	16.9	0.71	12.4	23.8	16.9	0.71	12.4
24	18	30.0	17.7	0.59	9.4	28.8	17.3	0.60	10.0	27.6	16.9	0.61	10.7	26.4	16.3	0.62	11.6	24.8	15.6	0.63	12.6	24.8	15.6	0.63	12.6
	19	31.1	16.2	0.52	9.5	30.0	15.6	0.52	10.2	28.8	15.3	0.53	10.9	27.5	14.9	0.54	11.7	25.9	14.0	0.54	12.7	25.9	14.0	0.54	12.7
	16	28.2	24.3	0.86	9.2	27.1	23.8	0.88	9.8	25.9	23.1	0.89	10.5	24.5	22.5	0.92	11.4	22.8	21.4	0.94	12.3	22.8	21.4	0.94	12.3
26	17	29.1	22.7	0.78	9.3	27.9	22.1	0.79	9.9	26.8	21.4	0.80	10.6	25.4	20.8	0.82	11.5	23.8	20.2	0.85	12.4	23.8	20.2	0.85	12.4
	18	30.0	20.7	0.69	9.4	28.8	20.2	0.70	10.0	27.6	19.6	0.71	10.7	26.4	19.2	0.73	11.6	24.8	18.6	0.75	12.6	24.8	18.6	0.75	12.6
	19	31.1	19.0	0.61	9.5	30.0	18.6	0.62	10.2	28.8	18.1	0.63	10.9	27.5	17.9	0.65	11.7	25.9	17.1	0.66	12.7	25.9	17.1	0.66	12.7
28	20	32.3	17.4	0.54	9.6	31.1	16.8	0.54	10.4	30.0	16.5	0.55	11.1	28.7	16.0	0.56	11.9	27.1	15.4	0.57	12.8	27.1	15.4	0.57	12.8
	21	33.3	15.3	0.46	9.7	32.2	15.1	0.47	10.5	31.1	14.6	0.47	11.2	29.8	14.3	0.48	12.0	28.2	13.5	0.48	12.9	28.2	13.5	0.48	12.9
	18	30.0	23.7	0.79	9.4	28.8	23.3	0.81	10.2	27.6	22.7	0.82	10.7	26.4	22.4	0.85	11.6	24.8	21.5	0.87	12.6	24.8	21.5	0.87	12.6
30	19	31.1	22.1	0.71	9.5	30.0	21.6	0.72	10.2	28.8	21.3	0.74	10.9	27.5	20.9	0.76	11.7	25.9	20.2	0.78	12.7	25.9	20.2	0.78	12.7
	20	32.3	20.6	0.64	9.6	31.1	19.9	0.64	10.4	30.0	19.5	0.65	11.1	28.7	19.2	0.67	11.9	27.1	18.7	0.69	12.8	27.1	18.7	0.69	12.8
	21	33.3	19.0	0.57	9.7	32.2	18.7	0.58	10.5	31.1	18.0	0.58	11.2	29.8	17.9	0.60	12.0	28.2	17.5	0.62	12.9	28.2	17.5	0.62	12.9
32	22	34.3	17.5	0.51	9.8	33.3	17.0	0.51	10.5	32.3	16.8	0.52	11.2	31.0	16.4	0.53	12.1	29.4	15.9	0.54	13.1	29.4	15.9	0.54	13.1
	23	35.3	15.5	0.44	9.9	34.3	15.5	0.45	10.6	33.4	15.0	0.45	11.3	32.1	14.8	0.46	12.2	30.5	14.3	0.47	13.3	30.5	14.3	0.47	13.3
	19	31.1	25.5	0.82	9.5	30.0	25.2	0.84	10.2	28.8	24.8	0.86	10.9	27.5	24.5	0.89	11.7	25.9	23.6	0.91	12.7	25.9	23.6	0.91	12.7
34	20	32.3	23.9	0.74	9.6	31.1	23.6	0.76	10.4	30.0	23.4	0.78	11.1	28.7	22.9	0.80	11.9	27.1	22.5	0.83	12.8	27.1	22.5	0.83	12.8
	21	33.3	22.3	0.67	9.7	32.2	21.9	0.68	10.5	31.1	21.8	0.70	11.2	29.8	21.5	0.72	12.0	28.2	20.9	0.74	12.9	28.2	20.9	0.74	12.9
	22	34.3	20.6	0.60	9.8	33.3	20.6	0.62	10.5	32.3	20.3	0.63	11.2	31.0	19.8	0.64	12.1	29.4	19.4	0.66	13.1	29.4	19.4	0.66	13.1
36	23	35.3	19.1	0.54	9.9	34.3	18.9	0.55	10.6	33.4	18.7	0.56	11.3	32.1	18.3	0.57	12.2	30.5	17.7	0.58	13.3	30.5	17.7	0.58	13.3
	24	36.3	17.1	0.47	10.0	35.4	17.0	0.48	10.7	34.6	16.9	0.49	11.4	33.3	16.3	0.49	12.3	31.7	15.8	0.50	13.4	31.7	15.8	0.50	13.4
	20	32.3	26.4	0.82	9.6	31.1	25.8	0.83	10.4	30.0	25.5	0.85	11.1	28.7	25.5	0.89	11.9	27.1	24.9	0.92	12.8	27.1	24.9	0.92	12.8
38	21	33.3	24.9	0.75	9.7	32.2	24.8	0.77	10.5	31.1	24.3	0.78	11.2	29.8	24.1	0.81	12.0	28.2	23.7	0.84	12.9	28.2	23.7	0.84	12.9
	22	34.3	23.6	0.69	9.8	33.3	23.3	0.70	10.5	32.3	23.2	0.72	11.2	31.0	22.9	0.74	12.1	29.4	22.3	0.76	13.1	29.4	22.3	0.76	13.1
	23	35.3	22.2	0.63	9.9	34.3	22.0	0.64	10.6	33.4	21.7	0.65	11.3	32.1	21.5	0.67	12.2	30.5	21.1	0.69	13.3	30.5	21.1	0.69	13.3
40	24	36.3	20.7	0.57	10.0	35.4	20.5	0.58	10.7	34.6	20.4	0.59	11.4	33.3	20.0	0.60	12.3	31.7	19.3	0.61	13.4	31.7	19.3	0.61	13.4

Factor for various air flow(Cooling)

Air volume	CMM	80	90	100
	L/S	1.333	1.500	1.666
capacity		0.977	1.0	1.035
input		0.991	1.0	1.005

Heating Capacity (Standard Air Flow) ; PEH-10MYB-EU

	Outdoor WB°C											
	-15.0			-10.0			-5.0			0.0		
	Q kW	T/l kW	T/l	Q kW	T/l kW	T/l	Q kW	T/l kW	T/l	Q kW	T/l kW	T/l
Indoor DB°C												
15	19.0	5.4	6.0	21.0	6.0	6.7	23.8	6.7	7.4	29.7	8.1	32.8
16	18.8	5.5	6.1	20.8	6.1	6.8	23.5	6.8	7.5	29.4	8.2	32.5
17	18.5	5.6	6.2	20.6	6.2	6.9	23.2	6.9	7.6	29.1	8.3	32.3
18	18.3	5.6	6.3	20.3	6.3	7.0	23.0	7.0	7.7	28.8	8.5	32.0
19	18.1	5.7	6.4	20.1	6.4	7.1	22.7	7.1	7.8	28.5	8.6	31.7
20	17.9	5.8	6.4	19.9	6.4	7.2	22.5	7.2	7.9	28.2	8.7	31.4
21	17.7	6.0	6.5	19.6	6.5	7.3	22.2	7.3	8.1	28.0	8.8	31.2
22	17.5	6.1	6.7	19.3	6.7	7.4	21.9	7.4	8.2	27.8	9.0	31.0
23	17.3	6.2	6.8	19.0	6.8	7.5	21.6	7.5	8.3	27.5	9.1	30.9
24	17.2	6.4	6.9	18.7	6.9	7.6	21.3	7.6	8.4	27.3	9.3	30.7
25	17.0	6.5	7.0	18.4	7.0	7.8	21.0	7.8	8.6	27.1	9.4	30.5
26	16.8	6.7	7.1	18.1	7.1	7.9	20.7	7.9	8.7	26.8	9.5	30.4
27	16.6	6.8	7.2	17.9	7.2	8.0	20.4	8.0	8.8	26.6	9.7	30.2

Reduction ratio by frosting

outdoor WB°C	Heating capacity reduction ratio
6	1.0
4	0.98
2	0.88
0	0.85
-2	0.86
-4	0.89
-6	0.92
-8	0.92
-10	0.92
-12	0.92
-15	0.92

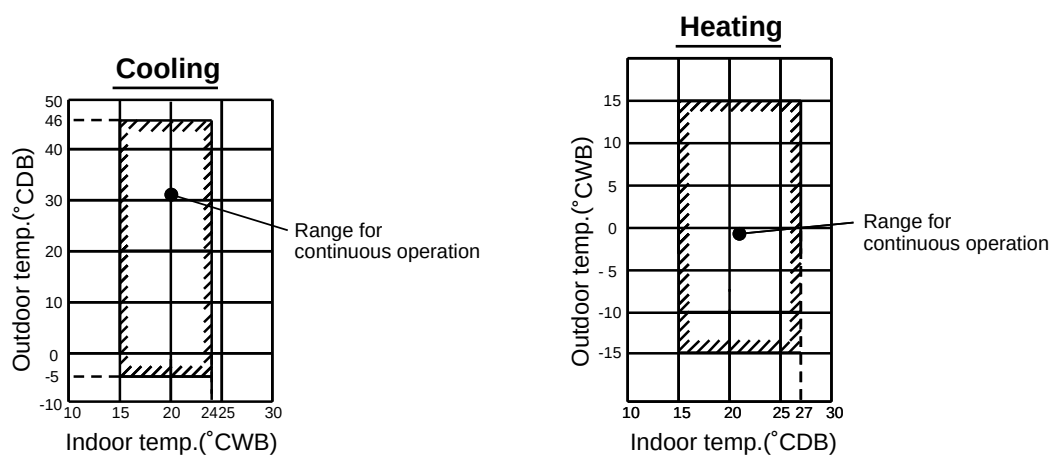
Factor for various air flow(Cooling)

Air volume	CMM	80	90	100
	L/S	1.333	1.500	1.666
capacity		0.989	1.0	1.008
input		1.025	1.0	0.984

OPERATION RANGE

The range of working temperatures is as below.

Make sure which unit you are using and confirm the range of application.



Note:

As an applicable humidity outside standard for both indoors and outdoors, we recommend use within a range of 35-80% relative humidity.

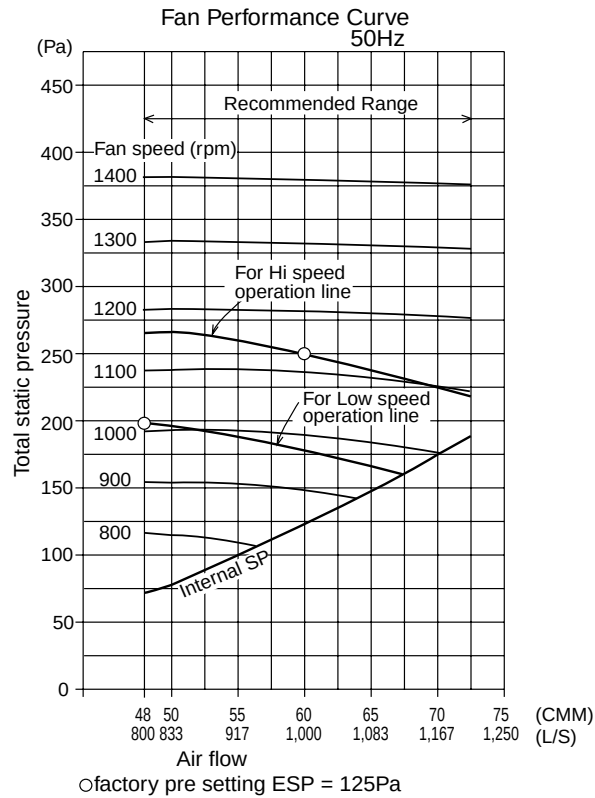
However, it is a condition that there is no be dewy in surfaces of electric parts.

Caution:

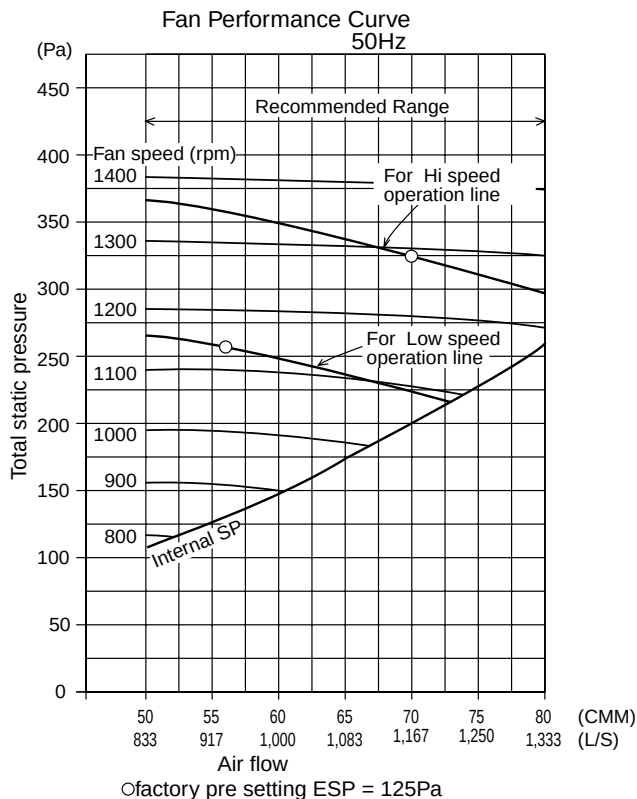
The use of your air conditioner outside the range of working temperature and humidity can result in serious failure.

FAN PERFORMANCE

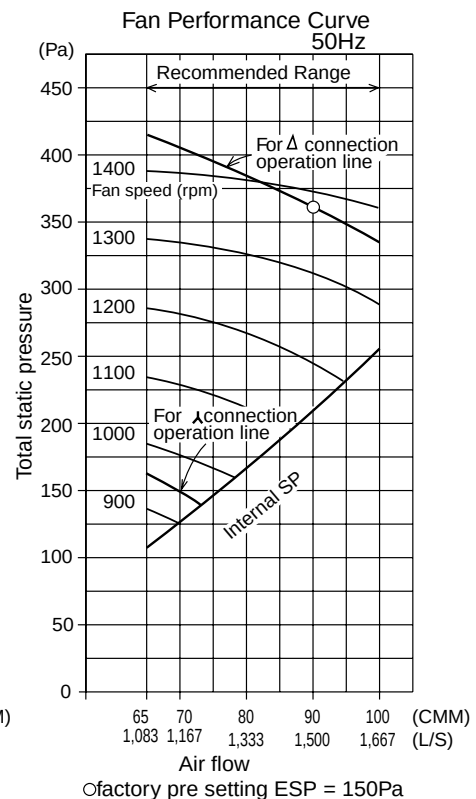
PEH-7MYB



PEH-8MYB



PEH-10MYB



SOUND DATA

Indoor units

Sound Levels

MODEL	SPL dB(A)	OCTAVE BAND FREQ. Hz							
		63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
PEH-7MYB	55	62	60	54	53	50	42.5	37	31.5
PEH-8MYB	56	63	61	55	54	51	43.5	38	32.5
PEH-10MYB	59	62	62.5	58.5	59.5	53	48	43.5	36

Outdoor units

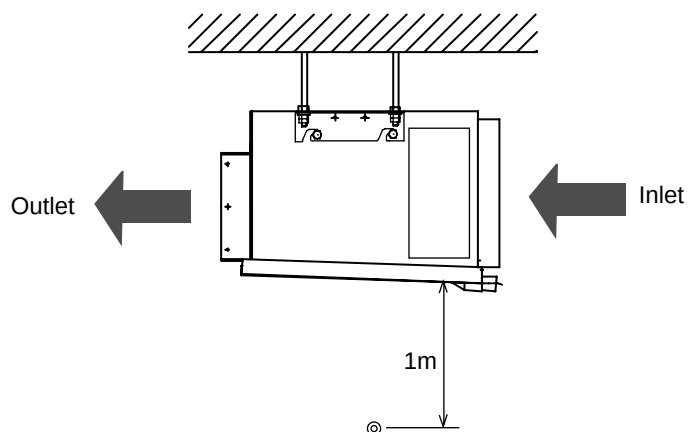
Sound Levels

MODEL		SPL dB(A)	OCTAVE BAND FREQ. Hz							
			63Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
PUH-7MYF	cool	59	65	63	63.5	55	52	50	43	39
	Heat	59	66	64	64	55	51	49	41	38
PUH-8MYF	cool	59	65	63	63.5	54	52	50	44	40
	Heat	59	66	64	64	55	51	49	42	39
PUH-10MYF	cool	59	64	62	62	54	52	51	48	44.5
	Heat	60	65	62	60	59	54	50	45	41

Position measurement

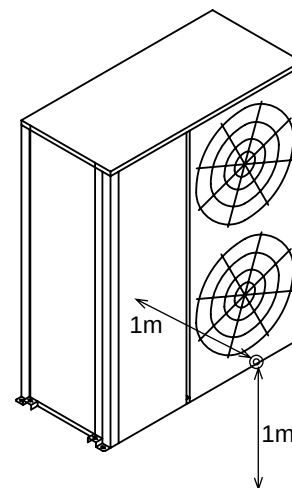
Indoor unit

PEH



Outdoor unit

PUH

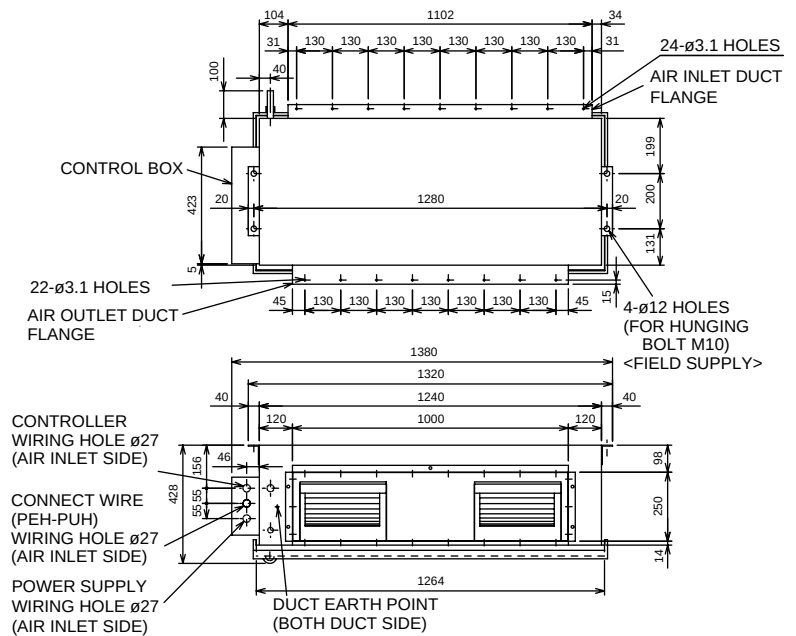
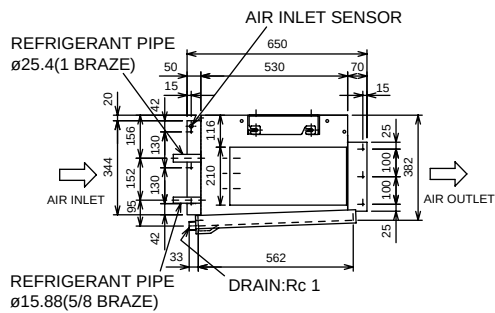


OUTLINE DIMENSIONS

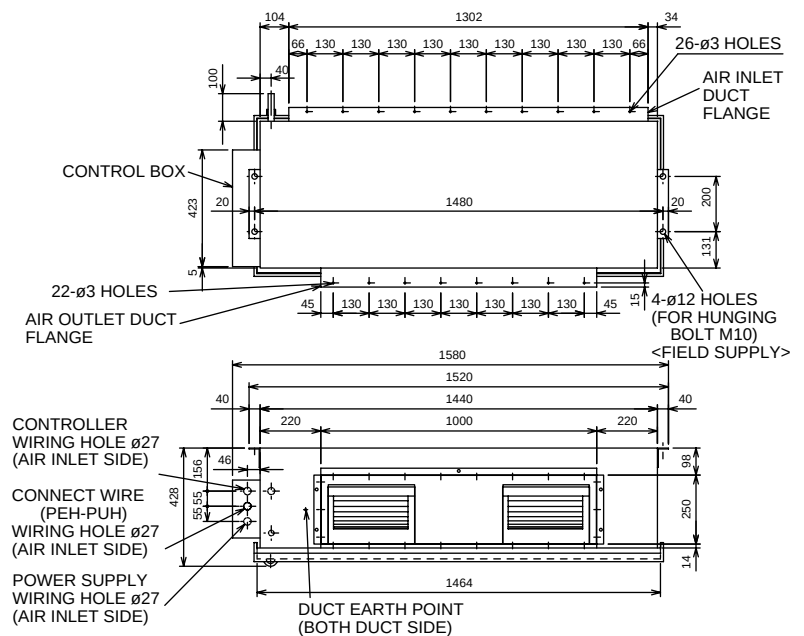
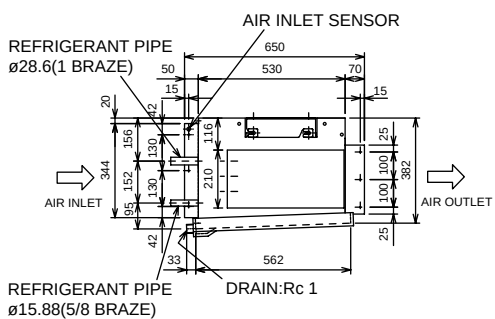
PEH-7,8MYB

(unit; mm)

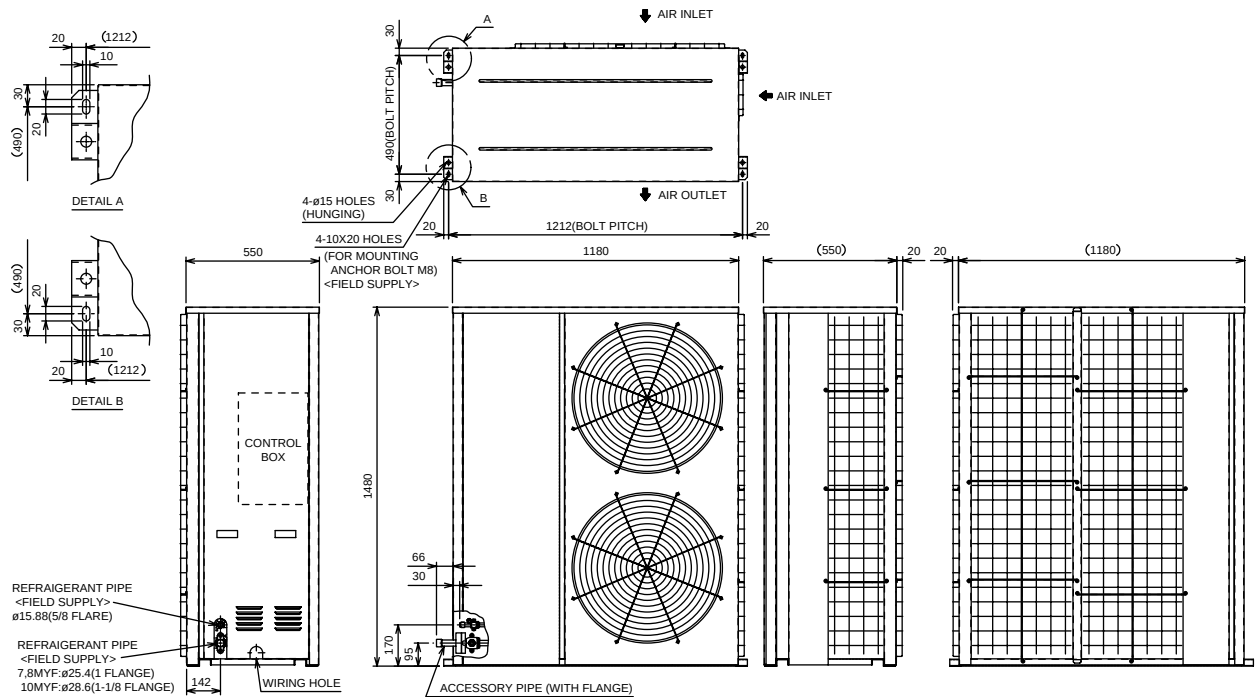
*Except: Drain size (unit; inch)



PEH-10MYB

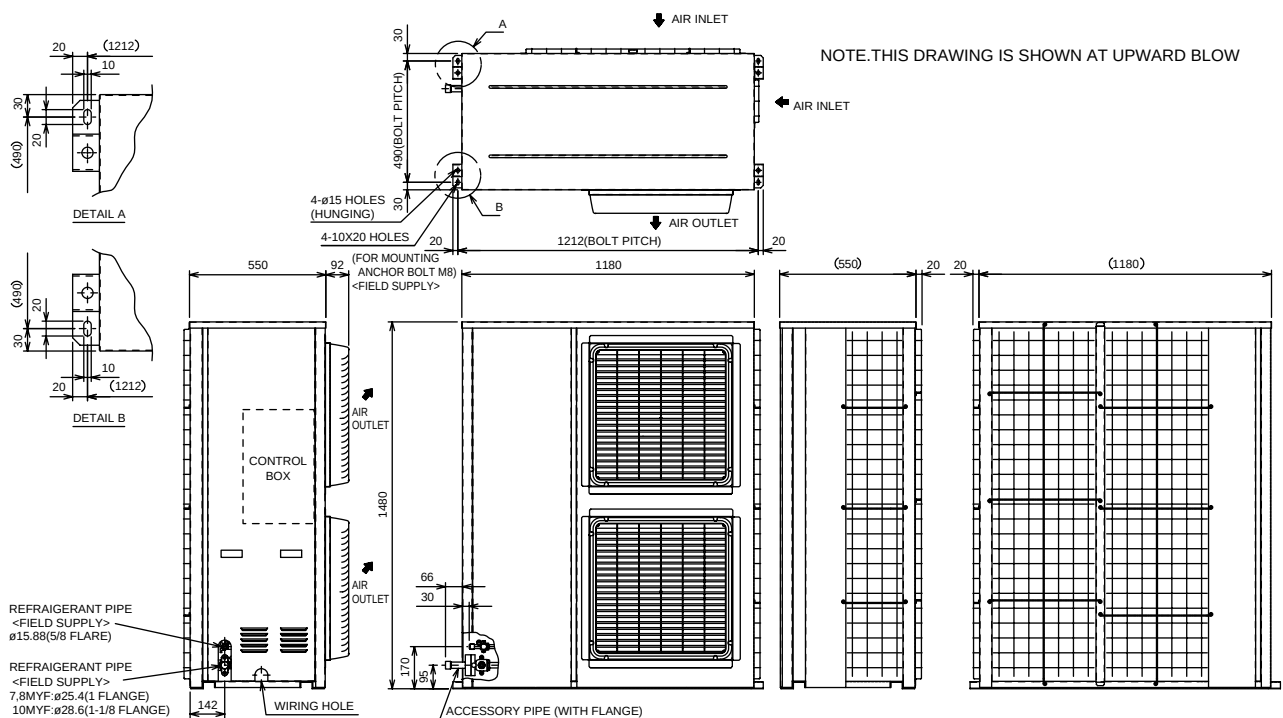


PUH-7,8,10MYF (Standard)



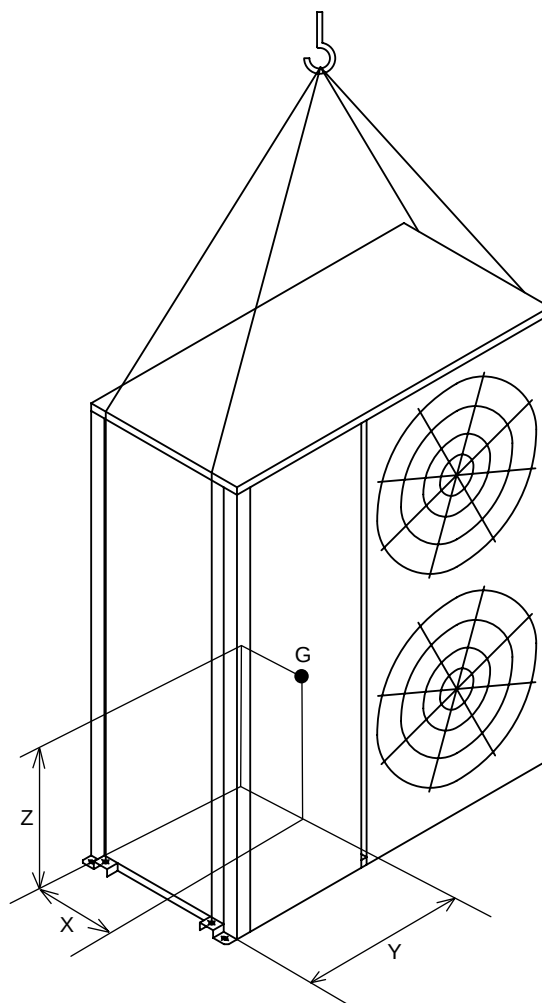
PUH-7,8,10MYF
(with Air outlet guide <option*1>)

*1 : Outdoor unit with air outlet guide is special order in some customers.



CENTER OF GRAVITY (Outdoor unit)

(1) Caution for lifting

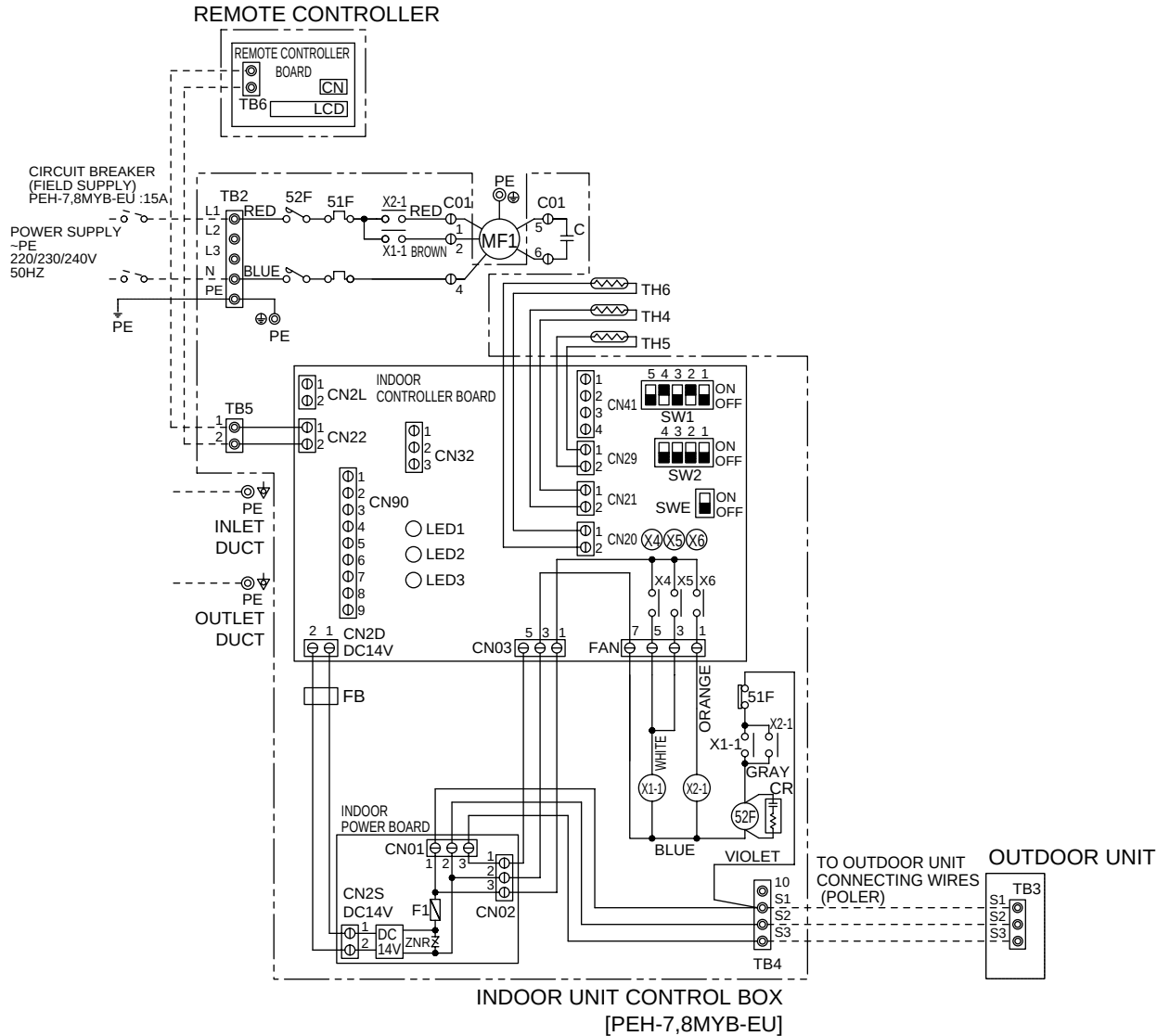


G : Center of gravity

Item Model name	Center of gravity(mm)			Net weight (kg)
	X	Y	Z	
PUH-7MYF	290	490	510	188
PUH-8MYF	290	490	510	188
PUH-10MYF	280	480	500	221

WIRING DIAGRAMS

PEH-7,8MYB



INDOOR UNIT

SYMBOL	NAME
MF1	FAN MOTOR (INDOOR)
51F	OVER CURRENT RELAY (INDOOR FAN MOTOR)
52F	CONTACTOR (INDOOR FAN MOTOR)
TB2,4,5	TERMINAL BLOCK
TH6	ROOM TEMP (0°C/15kΩ,25°C/5.4kΩ)
TH4	PIPE TEMP (0°C/15kΩ,25°C/5.4kΩ)
TH5	COND./EVA.TEMP (0°C/15kΩ,25°C/5.4kΩ)
F1	FUSE(4A 250VAC CLASS T)
ZNR	VARISTOR
X1-1,X2-1	AUXILIARY RELAY
X4-6	AUXILIARY RELAY(INDOOR CONTROLLER BOARD)
SW1	SWITCH(MODEL SELECTION)
SW2	SWITCH(CAPACITY CORD)
SWE	SWITCH(EMERGENCY OPERATION)
LED1	LED (POWER SUPPLY :INDOOR CONTROLLER BOARD)
LED2	LED (POWER SUPPLY :REMOTE CONTROLLER)
LED3	LED (TRANSMISSION :INDOOR-OUTDOOR)
CR	SURGE KILLER
CN03,CN2L,2D CN20-22,29,32 CN41,90,FAN	CONNECTOR(INDOOR CONTROLLER BOARD)
CN01,02,2S	CONNECTOR(INDOOR POWER BOARD)
C01	CONNECTOR(FAN MOTOR)
FB	FERRITE CORE

OUTDOOR UNIT

SYMBOL	NAME
TB3	TERMINAL BLOCK

REMOTE CONTROLLER

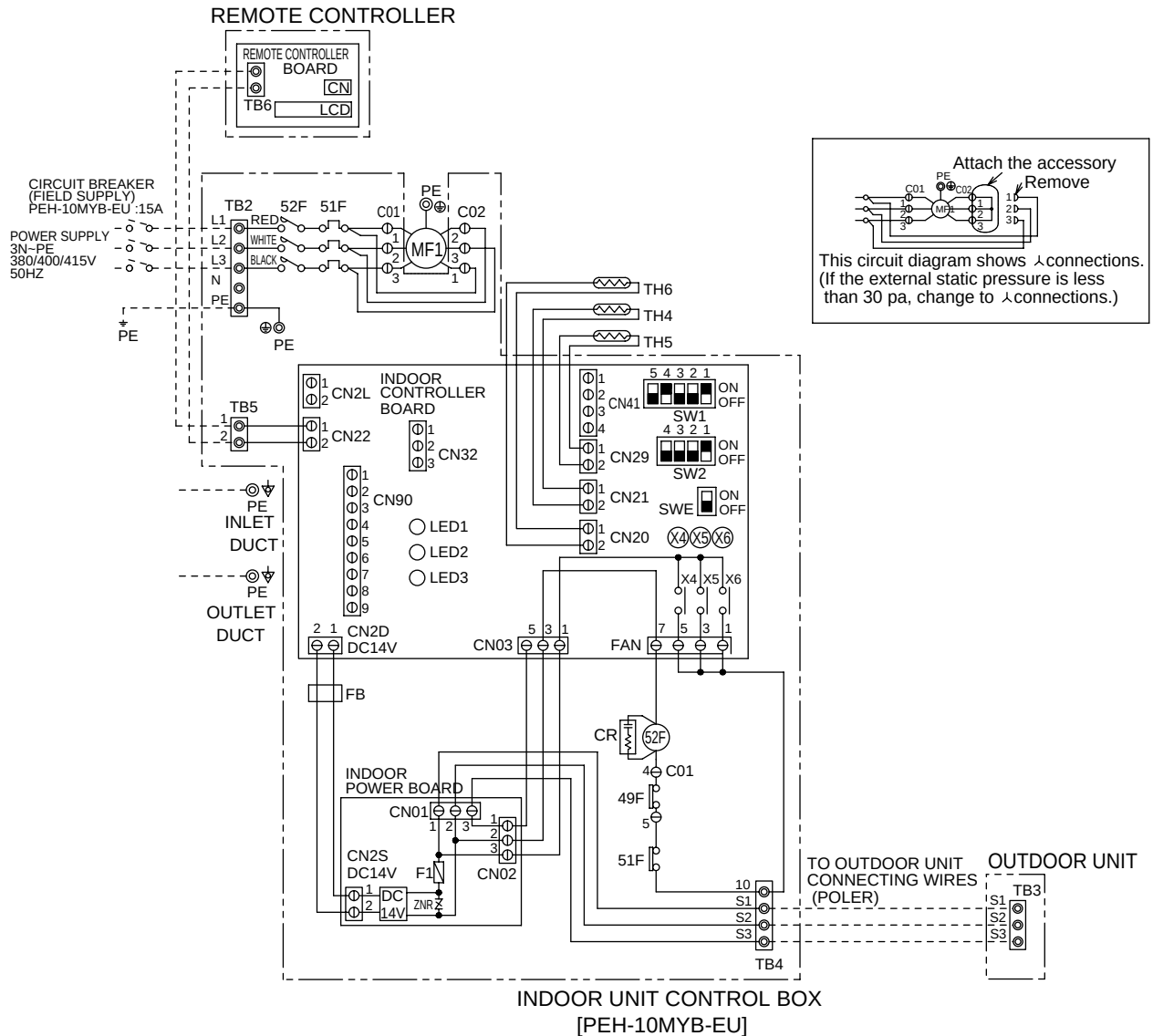
SYMBOL	NAME
TB6	TERMINAL BLOCK

- Note:1. The dotted lines show field wiring.
 2. Color of earth wire is yellow and green twisting.
 3. Specification subject to change without notice.
 4. Indoor and outdoor connecting wires are made with polarities, make sure matching wiring and terminal.
 5. Emergency operation If a trouble occurs with either the remote controller or the indoor microcomputer and no other trouble exists, emergency operation for cooling or heating can be performed by changing the setting of switch (SWE) on the indoor controller board.

Caution,

- To protect fan motor from abnormal current,over current relays is installed.
Therefore, do not change factory set value of Over current relays.

PEH-10MYB



INDOOR UNIT

SYMBOL	NAME
MF1	FAN MOTOR (INDOOR)
51F	OVER CURRENT RELAY (INDOOR FAN MOTOR)
52F	CONTACTOR (INDOOR FAN MOTOR)
49F	INTERNAL THERMOSTAT (INDOOR FAN MOTOR)
TB2,4,5	TERMINAL BLOCK
TH6	ROOM TEMP (0°C/15kΩ,25°C/5.4kΩ)
TH4	THERMISTOR PIPE TEMP (0°C/15kΩ,25°C/5.4kΩ)
TH5	COND./EVA.TEMP (0°C/15kΩ,25°C/5.4kΩ)
F1	FUSE(4A 250VAC CLASS T)
ZNR	VARISTOR
X4-6	AUXILIARY RELAY(INDOOR CONTROLLER BOARD)
SW1	SWITCH(MODEL SELECTION)
SW2	SWITCH(CAPACITY CORD)
SWE	SWITCH(EMERGENCY OPERATION)
LED1	LED (POWER SUPPLY :INDOOR CONTROLLER BOARD)
LED2	LED (POWER SUPPLY :REMOTE CONTROLLER)
LED3	LED (TRANSMISSION :INDOOR-OUTDOOR)
CR	SURGE KILLER
CN03,CN2L,2D CN20-22,29,32 CN41,90,FAN	CONNECTOR(INDOOR CONTROLLER BOARD)
CN01,02,2S	CONNECTOR(INDOOR POWER BOARD)
C01,02	CONNECTOR(FAN MOTOR)
FB	FERRITE CORE

OUTDOOR UNIT

SYMBOL	NAME
TB3	TERMINAL BLOCK

REMOTE CONTROLLER

SYMBOL	NAME
TB6	TERMINAL BLOCK

Note: 1. The dotted lines show field wiring.

2. Color of earth wire is yellow and green twisting.

3. Specification subject to change without notice.

4. Indoor and outdoor connecting wires are made with polarities,make sure matching wiring and terminal.

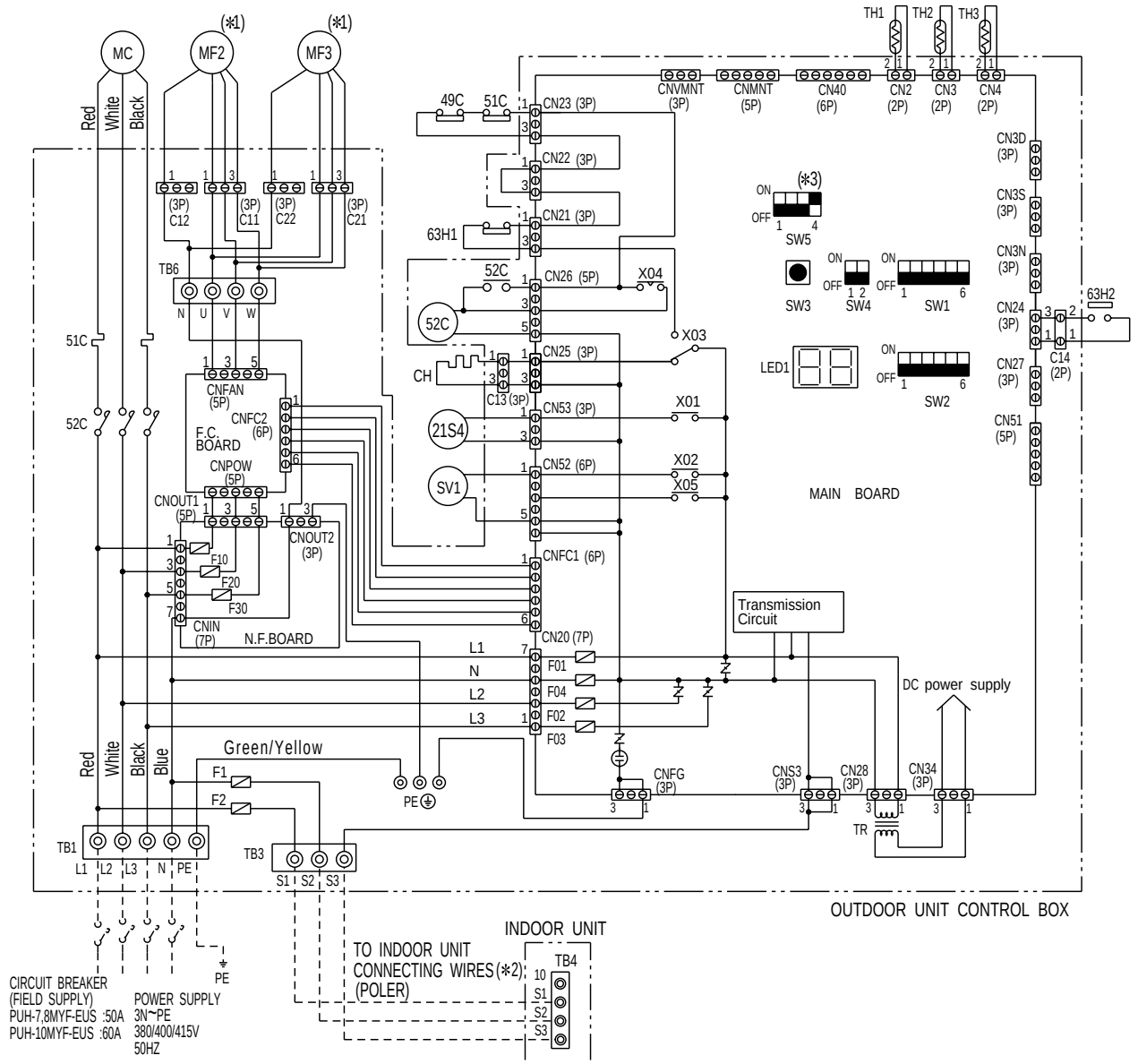
5. Emergency operation

If a trouble occurs with either the remote controller or the indoor microcom- puter and no other trouble exists, emergency operation for cooling or heating can be performed by changing the setting of switch (SWE) on the indoor controller board.

Caution,

1. To protect fan motor from abnormal current,over current relays is installed. Therefore, do not change factory set value of Over current relays.

PUH-7,8,10MYF



SYMBOL	NAME	SYMBOL	NAME	
F1.F2	FUSE(15A)	X01-X05	AUXILIARY RELAY(MAIN BOARD)	
F01-F04	FUSE(6.3A)	SW1-5	SWITCH(MAIN BOARD)	
F10-F30	FUSE(6.3A)	21S4	4-WAY VALVE	
51C	OVER CURRENT RELAY(COMPRESSOR)	SV1	SOLENOID VALVE	
52C	CONTACTOR(COMPRESSOR)	CH	CRANK CASE HEATER(COMPRESSOR)	
49C	INTERNAL THERMOSTAT(COMPRESSOR)	TH1	THERMISTOR	LIQUID TEMP
63H1	PRESSURE SWITCH(HIGH PRESSURE)	TH2		DISCHARGE TEMP
63H2	PRESSURE SWITCH(FOR CONTROL)	TH3		COND/EVA TEMP
MC	COMPRESSOR MOTOR	TB1,TB3,TB6	TERMINAL BLOCK(OUTDOOR UNIT)	
MF2,MF3	FAN MOTOR (OUTDOOR)	TB4	TERMINAL BLOCK(INDOOR UNIT)	
TR	TRANSFORMER	C11,12,21,22	CONNECTOR(FAN MOTOR)	
LED1	LED(FOR SERVICE)	C13	CONNECTOR(CH)	
CN2,CN20-28 CN3,34,3D,3N,3S CN4,40,51-53 CNFC1,FG,S3 CNMNT,VMNT	CONNECTOR(MAIN BOARD)	CNFAN,CNFC2 CNPOW	CONNECTOR(F.C.BOARD)	
		CNOUT1,2 CNIN	CONNECTOR(N.F.BOARD)	

Note:

- 1.The dotted lines show field wiring.
- 2.Color of earth wire is yellow and green twisting.
- 3.Specification subject to change without notice.
- 4.This motor(*1) includes auto reset type internal thermostat.
- 5.Indoor and outdoor connecting wires are made with polarities,make sure matching wiring and terminal.
- 6.SW5(*2) is shown PUH-10MYF-EU setting.
In case of PUH-7,8MYF-EU setting is shown as below.

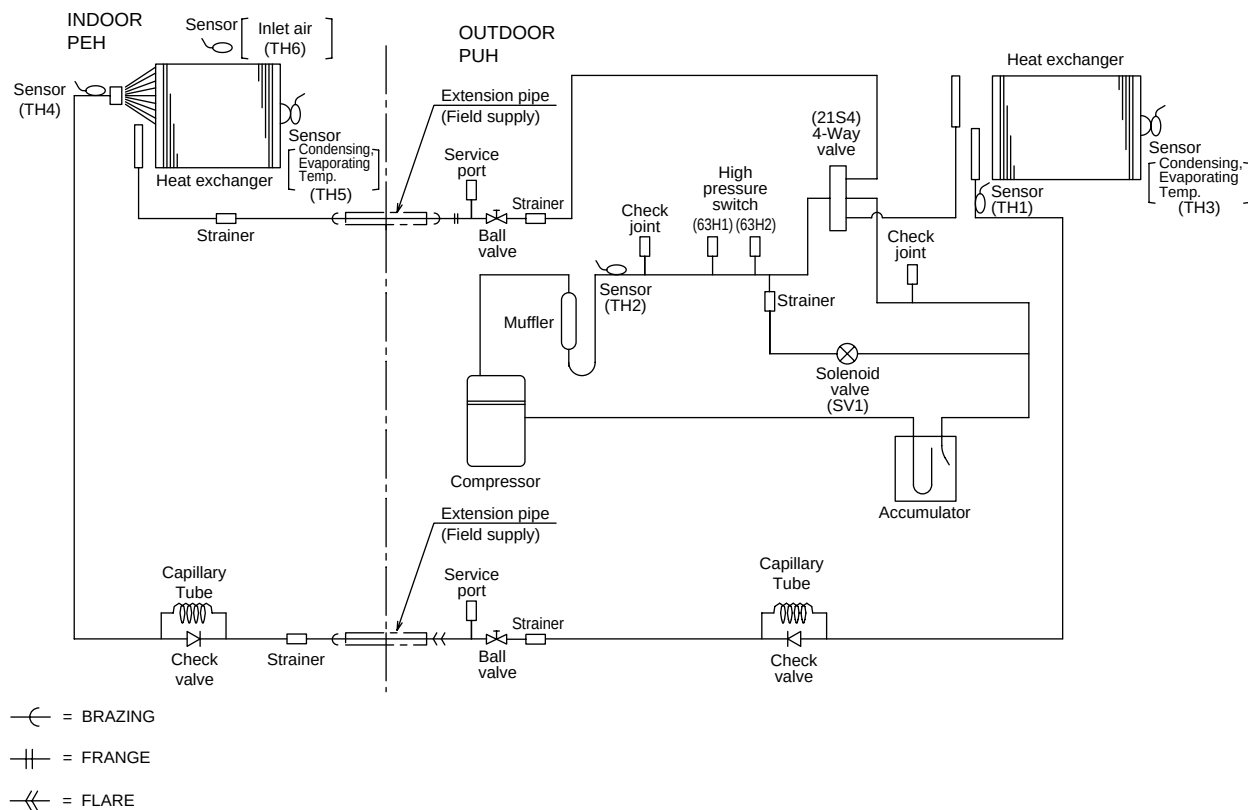


Caution,

1. To protect compressor from abnormal current, over current relays is installed. Therefore, do not change factory set value of Over current relays.

REFRIGERANT SCHEMATICS

PEH-7,8,10MYB
PUH-7,8,10MYF



SAFETY & CONTROL DEVICES

PEH-7,8,10MYB
PUH-7,8,10MYF

ITEM	NO.	PEH-7MYB PUH-7MYF	PEH-8MYB PUH-8MYF	PEH-10MYB PUH-10MYF
COMPRESSOR OVER CURRENT RELAY	51C	19.0A	22.0A	31.0A
COMPRESSOR INTERNAL THERMOSTAT	49C	105 ± 5 °C off 83±11 °C on		
HIGH PRESSURE SWITCH		3.3 ⁺⁰ _{-0.15} MPa off		
INDOOR FAN MOTOR OVER CURRENT RELAY	51F	5A	6.2A	3A
INDOOR FAN MOTOR INTERNAL THERMOSTAT		150±5 °C OFF		
OUTDOOR FAN MOTOR INTERNAL THERMOSTAT		150±5 °C OFF		

OPTION

ITEM	PEH-7MYB PUH-7MYF	PEH-8MYB PUH-8MYF	PEH-10MYB PUH-10MYF
OUTDOOR UNIT AIR OUTLET GUIDE	PAC-207FG *1		
M-NET ADAPTOR	PAC-SF48MA-E		

*1 : Outdoor unit with air outlet guide is special order in some customers.

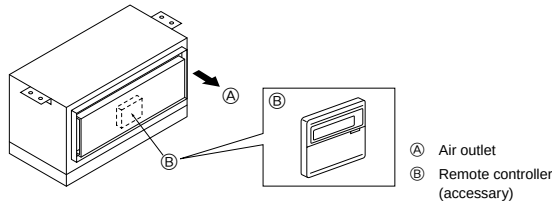
INSTALLATION

I . Indoor unit

I -1. Accessory

The unit is provided with the following accessory:

[Fig. I -1.0.1]



I -2. Selecting an installation site

- Select a site with sturdy fixed surface sufficiently durable against the weight of unit.
- Before installing unit, the routing to carry in unit to the installation site should be determined.
- Select a site where the unit is not affected by entering air.
- Select a site where the flow of supply and return air is not blocked.
- Select a site where refrigerant piping can easily be led to the outside.
- Select a site which allows the supply air to be distributed fully in room.
- Do not install unit at a site with oil splashing or steam is produced much quantity.
- Do not install unit at a site where combustible gas may generate, flow in, stagnate or leak.
- Do not install unit at a site where equipment generating high frequency waves (a high frequency wave welder for example) is provided.
- Do not install unit at a site where fire detector is located at the supply air side. (Fire detector may operate erroneously due to the heated air supplied during heating operation.)
- When special chemical product may scatter around such as site chemical plants and hospitals, full investigation is required before installing unit. (The plastic components may be damaged depending on the chemical product applied.)

I -2.1. Install the indoor unit on a ceiling strong enough to sustain its weight

⚠ Warning:

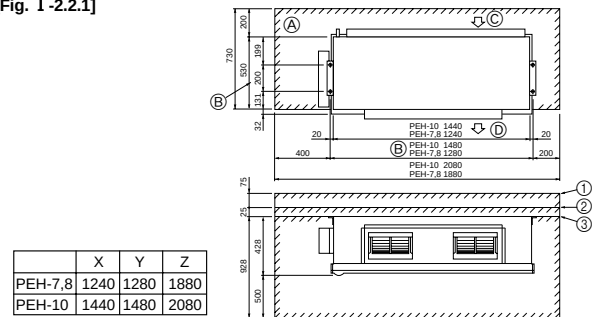
The unit must be securely installed on a structure that can sustain its weight. If the unit is mounted on an unstable structure, it may fall down causing injuries.

I -2.2. Securing installation and service space

- Select the optimum direction of supply airflow according to the configuration of the room and the installation position.
- As the piping and wiring are connected at the bottom and side surfaces, and the maintenance is made at the same surfaces, allow a sufficient space. For the efficient suspension work and safety, provide as much space as possible.

Service space

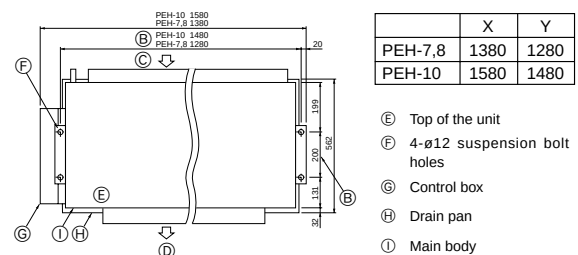
[Fig. I -2.2.1]



- ① When connecting air inlet
 - ② When installing the suspension fixtures prior to installation of the indoor unit without inlet duct and outlet duct
 - ③ When hanging the indoor unit directly without inlet duct and outlet duct
- A Service space B Suspension bolt pitch
C Air inlet D Air outlet

Suspension bolt pitch

[Fig. I -2.2.2]



I -2.3. Combining indoor units with outdoor units

For combining indoor units with outdoor units, refer to the outdoor unit installation manual.

I -3. Fixing hanging bolts

I -3.1. Fixing hanging bolts

(Use M10 hanging bolts. The bolts should be supplied in the field.)
(Give site of suspension strong structure.)

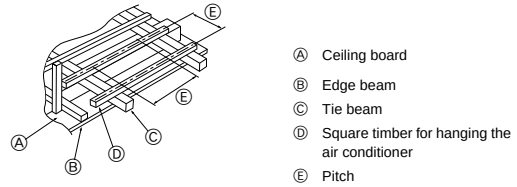
Hanging structure

- Ceiling: The ceiling structure varies from one building to one another. For detailed information, consult your construction company.
- ① Reinforcing the ceiling with additional members (edge beam, etc) must be required to keep the ceiling at level and to prevent the ceiling from vibrations.
- ② Cut and remove the ceiling members.
- ③ Reinforce the ceiling members, and add other members for fixing the ceiling boards.

For wooden construction

- Use the tie beam (for one story building) or second-floor beam (for two story building) as strength members.
- To hang the air-conditioner, use a hard square timber of more than 6 cm if the distance between beams is less than 90 cm and a hard square timber of more than 9 cm if the distance between beams is less than 180 cm.

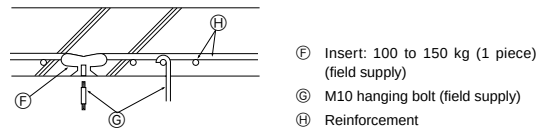
[Fig. I -3.1.1]



For reinforced concrete construction

- As shown in the figure below, fix the hanging bolts, or use square timbers to fix the hanging bolts.

[Fig. I -3.1.2]



Product Weight (kg)

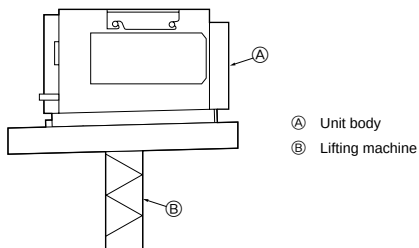
PEH-7MYB	67 kg
PEH-8MYB	70 kg
PEH-10MYB	84 kg

I -4. Installing the unit

I -4.1. Hanging the unit body

- Bring the indoor unit to an installation site as it is packed.
- To hang the indoor unit, use a lifting machine to lift and pass through the hanging bolts.
- Install the indoor unit before ceiling work.

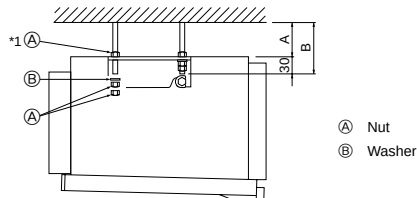
[Fig. I -4.1.1]



* Two installation methods are available
<When hanging the indoor unit directly>

- Attach a washer and nut(s) to each suspension bolt. (The washers and nuts are to be supplied locally.)
- Fit the indoor unit to each suspension bolt.
- Make sure that the unit is positioned level, then tighten each nut.

[Fig. I -4.1.2]



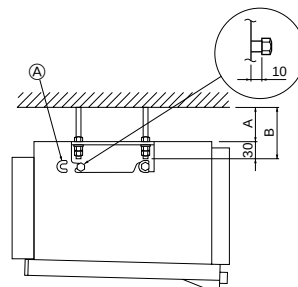
	A	B
When using inlet duct	100 or more	130 or more
When not using inlet duct	0 or more	30 or more

Nut (*1) is not required if distance A is 0.

<When installing the suspension fixture prior to installation of the indoor unit>

- Loosen each suspension fixture bolt slightly, and remove the fixture and U-shaped washers.
- Adjust each suspension fixture bolt.
- Attach a washer, nut and suspension fixture to each suspension bolt. (The washers and nuts are to be supplied locally.)
- Hook the indoor unit to the suspension fixtures.
- Make sure that the unit is positioned level, then tighten each nut.

[Fig. I -4.1.3]

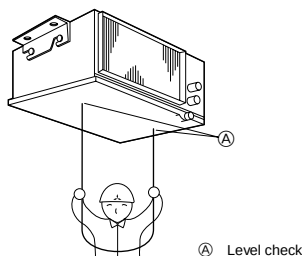


Ⓐ Be sure to attach a U-shaped washer (4 washers in total).

	A	B
When using inlet duct	100 or more	130 or more
When not using inlet duct	25 or more	55 or more

I -4.2. Confirming the unit's position and fixing hanging bolts

[Fig. I -4.2.1]



- ▶ Use the gage supplied with the panel to confirm that the unit body and hanging bolts are positioned in place. If they are not positioned in place, it may result in dew drops due to wind leak. Be sure to check the positional relationship.
- ▶ Use a level to check that the surface indicated by ① is at level. Ensure that the hanging bolt nuts are tightened to fix the hanging bolts.
- ▶ To ensure that drain is discharged, be sure to hang the unit at level using a level.

Caution:

Be sure to install the unit body at level.

I -5. Refrigerant pipe and drain pipe specifications

To avoid dew drops, provide sufficient antisweating and insulating work to the refrigerant and drain pipes.

When using commercially available refrigerant pipes, be sure to wind commercially available insulating material (with a heat-resisting temperature of more than 100 °C and thickness given below) onto both liquid and gas pipes.

Be also sure to wind commercially available insulating material (with a form polyethylene's specific gravity of 0.03 and thickness given below) onto all pipes which pass through rooms.

- ① Select the thickness of insulating material by pipe size.

Pipe size	Insulating material's thickness
6.4 mm to 25.4 mm	More than 10 mm
28.6 mm to 38.1 mm	More than 15 mm

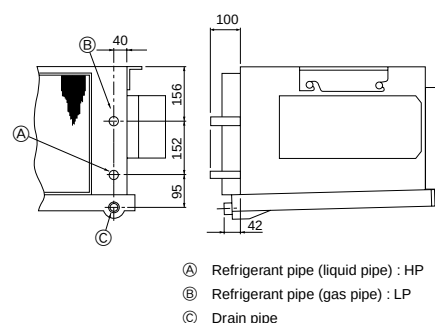
- ② If the unit is used on the highest story of a building and under conditions of high temperature and humidity, it is necessary to use pipe size and insulating material's thickness more than those given in the table above.
- ③ If there are customer's specifications, simply follow them.

I -5.1. Refrigerant pipe and drain pipe specifications

Model		PEH-7, 8MYB	PEH-10MYB
Refrigerant pipe	Liquid pipe	ø15.88	
	Gas pipe	ø25.4	ø28.58
Drain pipe		RC1 (Male screw)	

I -5.2. Refrigerant pipe, drain pipe and filling port

[Fig. I -5.2.1]



- ① Refrigerant pipe (liquid pipe) : HP
- ② Refrigerant pipe (gas pipe) : LP
- ③ Drain pipe

I -6. Connecting refrigerant pipes and drain pipes

I -6.1. Refrigerant piping work

This piping work must be done in accordance with the installation manuals for outdoor unit.

- For constraints on pipe length and allowable difference of elevation, refer to the outdoor unit manual.
- The method of pipe connection is brazing connection.

Cautions on refrigerant piping

- ▶ Be sure to use non-oxidative brazing for brazing to ensure that no foreign matter or moisture enter into the pipe.
- ▶ Provide a metal brace to support the refrigerant pipe so that no load is imparted to the indoor unit end pipe. This metal brace should be provided 50 cm away from the indoor unit's brazing connection.

Warning:

Do not mix anything other than the specified refrigerant (R22) into the refrigerating cycle. Mixing air may cause the refrigerating cycle to have abnormally high temperature, resulting in a burst.

Caution:

- Install the refrigerant piping for the indoor unit in accordance with the following.

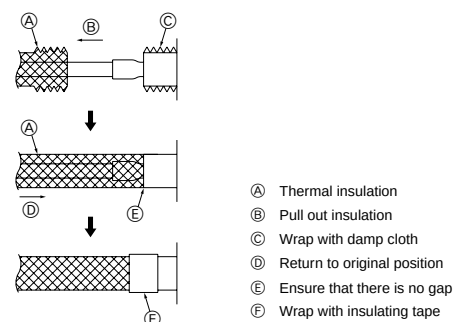
1. Remove the rubber cap.

[Fig. I -6.1.1]



2. Pull out the thermal insulation on the site refrigerant piping, braze the unit piping, and replace the insulation in its original position. Wrap the piping with insulating tape.

[Fig. I -6.1.2]



- ① Thermal insulation
- ② Pull out insulation
- ③ Wrap with damp cloth
- ④ Return to original position
- ⑤ Ensure that there is no gap
- ⑥ Wrap with insulating tape

Note:

- Pay strict attention when wrapping the copper piping since wrapping the piping may cause condensation instead of preventing it.
- Before brazing the refrigerant piping, always wrap the piping on the main body, and the thermal insulation piping, with damp cloths to prevent heat shrinkage and burning the thermal insulation tubing. Take care to ensure that the flame does not come into contact with the main body itself.

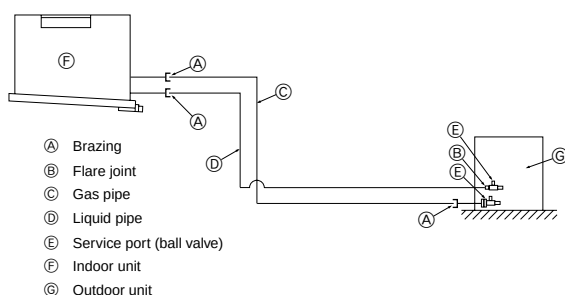
⚠ Caution:

- Use refrigerant piping made of C1220 (CU-DHP) phosphorus deoxidized copper as specified in the JIS H3300 "Copper and copper alloy seamless pipes and tubes". In addition, be sure that the inner and outer surfaces of the pipes are clean and free of hazardous sulphur, oxides, dust/dirt, shaving particles, oils, moisture, or any other contaminant.
- Never use existing refrigerant piping.
 - The large amount of chlorine in conventional refrigerant and refrigerator oil in the existing piping will cause the new refrigerant to deteriorate.
- Store the piping to be used during installation indoors and keep both ends of the piping sealed until just before brazing.
 - If dust, dirt, or water gets into the refrigerant cycle, the oil will deteriorate and the compressor may fail.

Additional refrigerant charge

- Take care not to allow dirt or cutting chips to enter the refrigerant pipes.
- The refrigerant pipes must be kept warm, so take particular care to insulate between refrigerant pipes and the gas pipe located inside the indoor unit, since the gas pipe causes condensation during cooling operation.
- When connecting the refrigerant pipes, make sure that the stop valve of the outdoor unit is fully closed (as it was when shipped from the factory). After connecting all the refrigerant pipes between the indoor and outdoor units, purge air from the stop valve service port of the outdoor unit and service port of each connecting pipe. Check that there is no air leakage from any pipe connection, then fully open the stop valve of the outdoor unit. This will connect the refrigerant circuit between the indoor and outdoor units.
- The refrigerant pipes must be as short as possible.
- Flare and flange connections must be used for connection of the refrigerant pipes.
- The indoor and outdoor units must be connected with the refrigerant pipes.

[Fig. I -6.1.3]



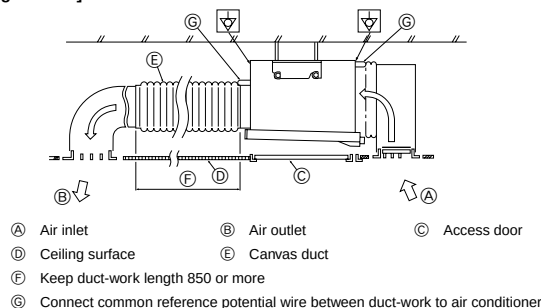
⚠ Warning:

During installation and re-installation, take care not to allow any gas or materials other than the specified refrigerant (R22) to enter the refrigerant cycle. Entry of air will cause extremely high pressure inside the refrigerant cycle, possibly resulting in breakage of pipes.

I -7. Duct work

- In connecting duct, insert canvas duct between unit and duct.
- Use incombustible material for duct parts.
- Provide full insulation to inlet duct flange, outlet duct flange and outlet duct to prevent condensation.
- Be sure to apply the air filter near the air inlet grille.
- Before connecting an inlet duct, remove the air filter (supplied with the unit), then install that filter in the inlet grille.

[Fig. I -7.0.1]

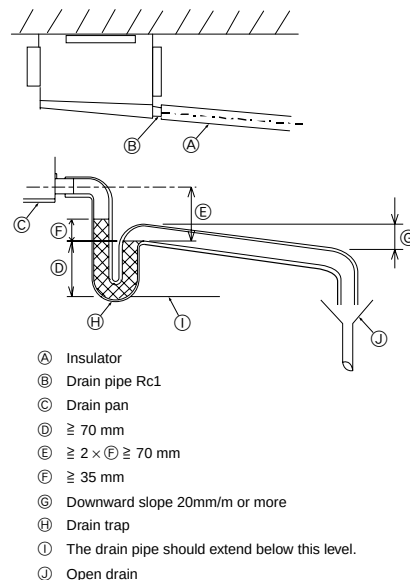


	PEH-7, 8MYB	PEH-10MYB
Piping Method	Brazing	Brazing
Height Difference between Indoor and Outdoor Units	30 m or less	30 m or less
Number of bends (right angles)	15 or less	15 or less
Total Piping Length	50 m or less	50 m or less
Refrigerant Pipe Size (mm)	Liquid Pipe	ø15.88
	Gas Pipe	ø25.4

► Refer to the installation manual for details of the additional amount of refrigerant for the outdoor unit.

I -6.2. Drain piping work

[Fig. I -6.2.1]

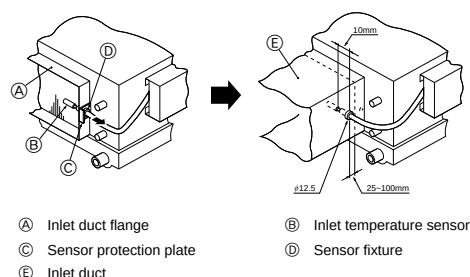


1. Ensure that the drain piping is downward (pitch of more than 20 mm/m) to the outdoor (discharge) side.
2. Ensure that any cross-wise drain piping is less than 20 m (excluding the difference of elevation). If the drain piping is long, provide metal braces to prevent it from waving. Never provide any air vent pipe. Otherwise drain may be ejected.
3. Use a hard vinyl chloride pipe VP-25 (with an external diameter of 32 mm) for drain piping.
4. Ensure that collected pipes are 10 cm lower than the unit body's drain port .
5. Put the end of the drain piping in a position where no odor is generated.
6. Do not put the end of the drain piping in any drain where ionic gases are generated.

⚠ Caution:

- Outlet duct is 850 mm or more necessary to construct.
- To connect the air conditioner main body and the duct for potential equalization.
- Inlet temperature sensor when an inlet duct is installed. An inlet temperature sensor is installed on the inlet duct flange. Before connecting an inlet duct, this sensor must be removed and installed in the specified position.

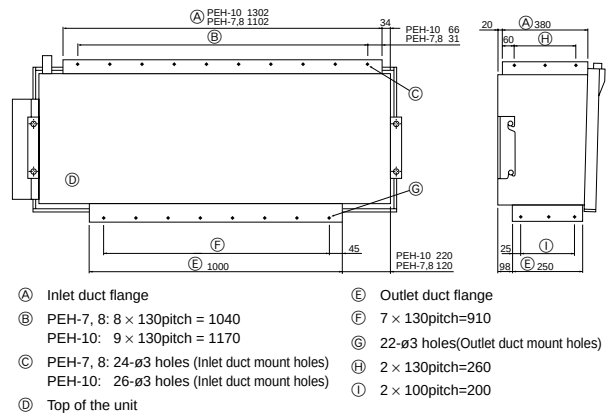
[Fig. I -7.0.2]



- ① Pull out the sensor, and remove the sensor fixture.
- ② Connect the inlet duct.
- ③ Drill a sensor hole (ø12.5 dia.) on the side on the duct.
- ④ Assemble the sensor and fixture.

- When pulling out the sensor, do not pull it by the lead wire. Doing so may result in wire breakage.
- Before connecting the inlet duct, make sure that the sensor and its fixture are removed.
- The sensor removed in step ① must be re-installed in the position specified in the drawing. Installation of the sensor in an incorrect position may result in malfunction.
- Mount holes for outlet duct flange and inlet duct.

[Fig. I -7.0.3]



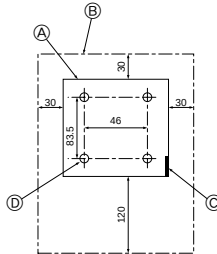
I -8. Remote controller

I -8.1. Installing procedures

- (1) Select an installing position for the remote controller (switch box).
Be sure to observe the following precautions.

[Fig. I -8.1.1] (1)

(1)



- A Remote controller profile
 B Required clearances surrounding the remote controller
 C Temperature sensor
 D Installation pitch

- ① The temperature sensors are located on both remote controller and indoor unit. To use the temperature sensor on the remote controller, mainly use the remote controller for temperature setting or room temperature detection. Install the remote controller in such an area that can detect average room temperatures, free of direct sunlight, airflow from the air conditioner, and other such heating source.
- ② In either case when the remote controller is installed in the switch box or on the wall, provide the clearances indicated in the diagram. (When the schedule timer is used in combination, also refer to the installation manual supplied with the schedule timer.)

Note:

Check that there is no electric wire left close to the remote controller sensor. If any electric wire is near the sensor, the remote controller may fail to detect a correct room temperature.

- ③ Procure the following parts locally:

Switch box for two pieces
 Thin copper conduit tube
 Lock nuts and bushings

- (2) Seal the service entrance for the remote controller cord with putty to prevent possible invasion of dew drops, water, cockroaches or worms.

<A> For installation in the switch box:

- When the remote controller is installed in the switch box, seal the junction between the switch box and the conduit tube with putty.

 For direct installation on the wall select one of the following:

- Prepare a hole through the wall to pass the remote controller cord (in order to run the remote controller cord from the back), then seal the hole with putty.
- Run the remote controller cord through the cut-out upper case, then seal the cut-out notch with putty similarly as above.

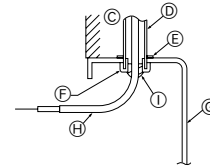
B-1. To lead the remote controller cord from the back of the controller:

B-2. To run the remote controller cord through the upper portion:

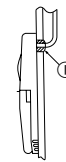
[Fig. I -8.1.1] (2)

<A> For installation in the switch box:

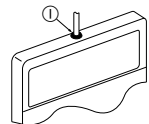
 For direct installation on the wall select one of the following:



B-1.



B-2.



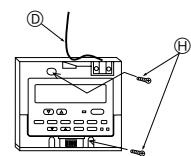
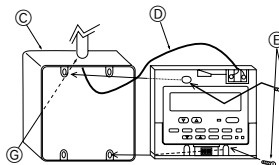
- C Wall
 E Lock nut
 G Switch box
 I Seal with putty.
 D Conduit
 F Bushing
 H Remote controller cord

(3) Install the lower case in the switch box or on the wall.

[Fig. I -8.1.1] (3)

<A> For installation in the switch box

 For direct installation on the wall



- C Switch box for two pieces
 E Cross-recessed, pan-head screw
 G Seal the remote controller cord service entrance with putty
 H Wood screw
 D Remote controller cord

Caution:

Do not over-tighten the screws as it may deform or break the lower case.

Note:

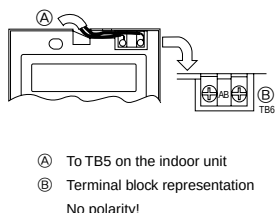
- Select a flat place for installation.
- Be sure to use two or more locations for securing of the remote controller in the switch box or on the wall.

I -8.2. Connecting procedures

- The remote controller cord may be extended up to 500 m. Since the remote controller cord supplied with the unit is 10 m-long, use those electric wires or (two-core) cables of 0.3 mm² to 1.25 mm² for extension. Do not use multi-conductor cables to prevent possible malfunction of the unit.

(1) Connect the remote controller cord to the terminal block for the lower case.

[Fig. I -8.2.1]

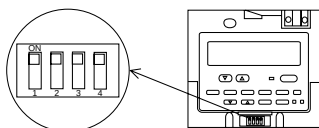


⚠ Caution:

Do not use crimp-style terminals for connection to the remote controller terminal block to eliminate contact with the boards and resultant trouble.

(2) Set the dip switch No.1 shown below when using two remote controller's for the same group.

[Fig. I -8.2.2] Dip switches



Setting the dip switches

The dip switches are at the bottom of the remote controller. Remote controller Main/Sub and other function settings are performed using these switches. Ordinarily, only change the Main/Sub setting of SW1. (The factory settings are all "ON".)

<SW No. 1>

SW contents Main	Remote controller Main/Sub setting
ON/OFF	Main/Sub
Comment	Set one of the two remote controllers at one group to "Main"

<SW No. 2>

SW contents Main	When remote controller power turned on
ON/OFF	Normally on/Timer mode on
Comment	When you want to return to the timer mode when the power is restored after a power failure when a Program timer is connected, select "Timer mode".

<SW No. 3>

SW contents Main	Cooling/heating display in AUTO mode
ON/OFF	Yes/No
Comment	When you do not want to display "Cooling" and "Heating" in the Auto mode, set to "No".

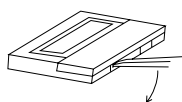
<SW No. 4>

SW contents Main	Intake temperature display
ON/OFF	Yes/No
Comment	When you do not want to display the intake temperature, set to "No".

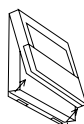
I -8.3. Fitting the upper case

[Fig. I -8.3.1]

(1)



(2)



(1) Put the upper latches (at two locations) first then fit the upper case into the lower case as illustrated.

(2) To remove the upper case, put a slotted screwdriver tip in the latches as shown in the diagram then move the screwdriver in the direction of arrow.

⚠ Caution:

- Do not move the screwdriver while inserting the tip far into the latches to prevent broken latches.
- Be sure to put the screwdriver tip securely in the latches until a snap sounds. Loosely inserted screwdriver may fall down.

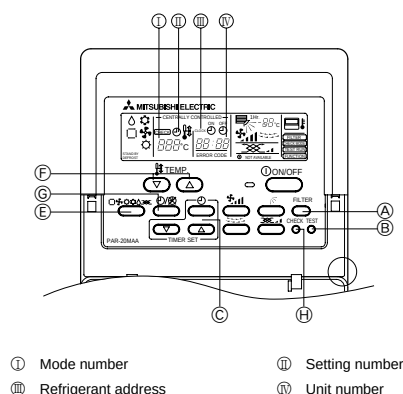
Note:

The operating section is covered with a protective sheet. Before using the unit, remember to remove the protective sheet.

I -8.4. Function settings

(1) Wired type

[Fig. I -8.4.1]



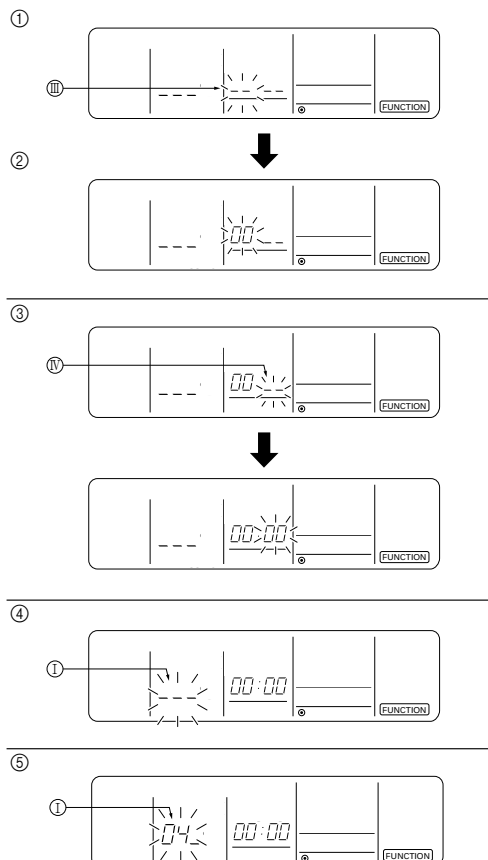
Changing the power voltage setting

Be sure to change the power voltage setting when operating the unit in an area where the power source is 220 V or 230 V.

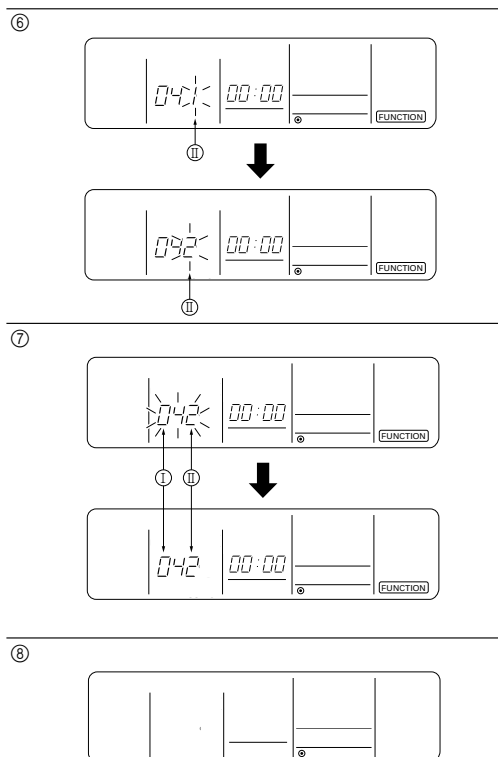
(The power voltage setting is set to 240 V at the factory. Units that are used in areas where the power source is 240 V do not require power voltage setting changes.)

[Operating instructions] (entering settings with a wired remote controller)

[Fig. I -8.4.2]



[Fig. I -8.4.2]



① Go to the function setting mode

Switch OFF the remote controller.

Press the **(A) FILTER** and **(B) TEST RUN** buttons simultaneously and hold them for at least 2 seconds. FUNCTION will start to flash. The refrigerant address display will start to flash momentarily.

② Setting the refrigerant address

Use the **(C) (A) (V) (TIMER SET)** button to set the refrigerant address **(III)** to 00. Press **(A)** to increase the value or **(V)** to decrease it.

00 is the typical setting. When operating in a group configuration, use the correlating refrigerant address (see the technical manual for details on setting the refrigerant address for a group). The refrigerant addresses must be set in order when performing the following operation.

* If the unit stops two seconds after the FUNCTION display starts to flash or [88] starts to flash in the room temperature display, a transmission problem may have occurred. Check to see if there is some source of transmission interference (noise) nearby.

(If you make a mistake during any point of this procedure, you can quit the function setting mode by pressing **(B)** once and then return to step ①.)

③ Setting the unit number

Press **(D) (CLOCK ON OFF)** and **(-)** will start to flash in the unit number **(IV)** display.

Use the **(C) (A) (V) (TIMER SET)** button to set the unit number to 00. Press **(A)** to increase the value or **(V)** to decrease it.

Unit number 00 = the function setting selection for the entire refrigerant system

④ Setting the refrigerant address/unit number

Press the **(E) MODE** button to designate the refrigerant address/unit number. **(-)** will flash in the mode number **(I)** display momentarily.

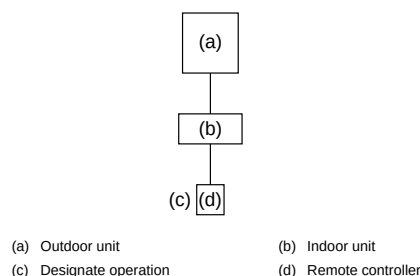
* If [88] appears in the room temperature section, the selected refrigerant address does not exist in the system. Also, if [F] appears in the unit number display section, the selected unit number does not exist. Enter the correct refrigerant address and unit number at steps ② and ③.

(Fan draft operation will start when settings are confirmed using the **(E) MODE** button. You can also use this operation to find out what functions are assigned to which unit numbers and the locations of those indoor units. Note that the fan draft operation will start for all of the indoor units that have been assigned refrigerant addresses when 00 or AL is the assigned unit number.)

* If an indoor unit other than those designated with refrigerant addresses emits a fan draft when a different refrigerant grouping is being used, the set refrigerant addresses have probably overlapped. Reassign the refrigerant addresses at the DIP switch of the outdoor unit.

Example) When the refrigerant address is set to 00 and the unit number is 02.

[Fig. I -8.4.3]



⑤ Selecting the mode number

Press the **(F) (A) (V) (TEMP)** buttons to set the mode number **(I)** to 04. Press **(A)** to increase the value or **(V)** to decrease it.

① Mode number 04 = power voltage switching mode

⑥ Selecting the setting number

1 will start to flash as the currently specified setting number **(II)** when the **(D)** button **(E)** is pressed. Use the **(A) (V) (TEMP)** buttons to specify 2 as the setting number. Press **(A)** to increase the value or **(V)** to decrease it.

② Setting number 1 = 240 V

③ Setting number 2 = 220 V/230 V

⑦ Designating the mode and setting numbers

The mode and setting numbers **(I) (II)** will start to flash when the MODE button **(E)** is pressed and the designation operation will begin. The numbers are set when the flashing settings stay lit.

* If **(-)** appears in the room temperature display as the mode/setting number, or if a flashing [88] display appears, a transmission problem may have occurred. Check to see if there is some source of transmission interference (noise) nearby.

⑧ Complete function selection

Press the **(A) FILTER** and **(B) TEST RUN** buttons simultaneously for at least two seconds. The function selection screen will disappear momentarily and the air conditioner OFF display will appear.

* Do not use the remote controller for 30 seconds after completing the function selection.

Other function selections

Now that you know how to change the power voltage setting, there are several other settings that can be changed as well. The following Table lists the various settings that can be changed through the remote controller and the default settings of the various units.

Table 1

Function	Settings	PEH-MYB
Power failure automatic recovery	Not available	○
	Available	
Indoor temperature detecting	Indoor unit operating average	○
	Set by indoor unit's remote controller	
	Remote controller's internal sensor	
LOSSNAY connectivity	Not supported	○
	Supported (indoor unit is not equipped with outdoor-air intake)	
	Not supported (indoor unit is equipped with outdoor-air intake)	
Power voltage	240 V	○
	220 V, 230 V	
Filter sign	100 Hr	○
	2500 Hr	
	No filter sign indicator	
Fan speed	Quiet	○ (7, 8MYB only)
	Standard	○
	High ceiling	—
No. of air outlets	4 directions	—
Installed options (high-performance filter)	Not supported	○
	Supported	—
Up/down vane setting	No vanes	○
	Equipped with vanes	—

Things to remember when entering function selections:

The basic procedure for entering function selections is the same as described for switching between power voltages. However, there are some differences at step ③ for selecting the unit number, step ⑤ for selecting the mode number and step ⑥ for selecting the unit number. The following Tables 2 and 3 list the various function settings, mode numbers and setting numbers. Table 2 details the functions of the entire refrigerant system while Table 3 shows the functions that can be set for the indoor unit.

Table 2. Itemized functions of the entire refrigerant system (select unit number 00)

Mode	Settings	Mode no.	Setting no.	Check	Remarks
Power failure automatic recovery	Not available	01	1		
	Available		2		Approx. 4-minute wait-period after power is restored.
Indoor temperature detecting	Indoor unit operating average	02	1		
	Set by indoor unit's remote controller		2		
	Remote controller's internal sensor		3		
LOSSNAY connectivity	Not Supported	03	1		
	Supported (indoor unit is not equipped with outdoor-air intake)		2		
	Supported (indoor unit is equipped with outdoor-air intake)		3		
Power voltage	240 V	04	1		
	220 V, 230 V		2		

Table 3. Itemized functions of the indoor unit (select unit numbers 01 to 03 or AL)

Mode	Settings	Mode no.	Setting no.	Check	Remarks
Filter sign	100 Hr	07	1		
	2500 Hr		2		
	No filter sign indicator		3		
Fan speed	Quiet	08	1		
	Standard		2		
	High ceiling		3		
No. of air outlets	Standard	09	1		
	High ceiling		2		
Installed options (high-performance filter)	Not supported	10	1		
	Supported		2		
Up/down vane setting	No vanes	11	1		
	Equipped with vanes		2		

③ Setting the unit numbers

Set "00" as the unit number when setting functions from Table 2.

When setting functions from Table 3:

- When setting functions for an indoor unit in an independent system, set the unit number to 01.
- When setting functions for a simultaneous-Twin Triple indoor unit system, assign unit numbers from 01 to 03 to each indoor unit.
- When setting the same functions for an entire simultaneous Twin Triple-indoor unit system, assign "AL" as the unit number.

⑤ Selecting the mode number

Select from Table 2 and Table 3.

⑥ Selecting the setting number

Select from Table 2 and Table 3.

II. Outdoor unit

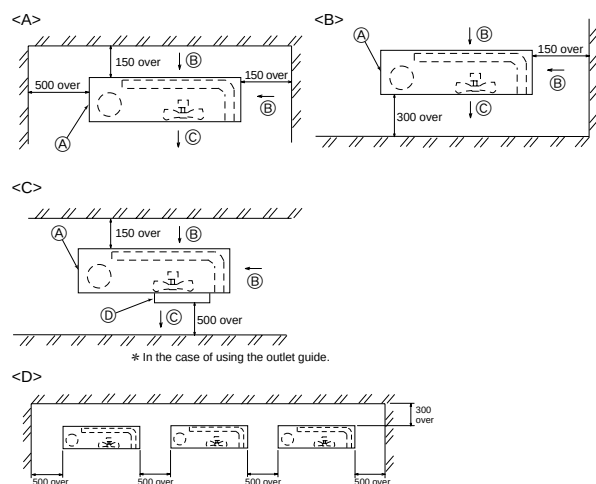
II-1. Confirmation of parts attached

① Connecting pipe × 1 (Connecting pipe is attached in front of compressor.)

② Packing (inside ø23, outside ø35) × 1

II-2. Space required around unit

[Fig. II-2.0.1]



Please set the unit that the inlet air and the outlet air are not influenced.

- | | |
|--|----------------------------------|
| <A> With the inlet surface facing the wall | (A) Service panel |
| With the outlet surface facing the wall | (B) Inlet surface |
| <C> With the inlet and outlet surface facing the wall. | (C) Outlet surface |
| <D> Relation of units for multiple unit installation | (D) Air outlet guide (accessory) |

(1) Basic space required (in case of <A>)

A space of at least 150 mm is necessary at the inlet surface. Taking servicing, etc. at the service panel side, a space of at least 500 mm should be provided and outlet side is open.

(2) Basic space required (in case of)

A space of at least 150 mm (right inlet surface) and 300 mm (outlet surface) is necessary. The service panel side and inlet surface is open.

(3) Basic space required (in case of <C>)

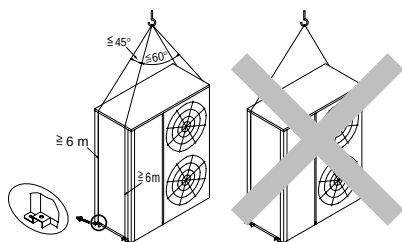
A space of at least 150 mm (pack inlet surface) and 500 mm (outlet surface with airoutlet guide) is necessary. The service panel side and right inlet surface is open.

(4) When Installing multiple units

Space required as shown in Fig <D>.

II-3. Lifting method and weight of product

[Fig. II-3.0.1]



⚠ Caution:

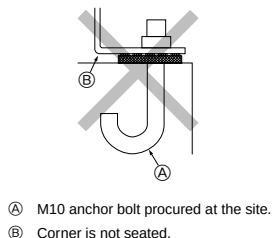
Be very careful to carry product.

- Do not have only one person to carry product if it weighs more than 20 kg.
- PP bands are used to pack some products. Do not use them as a mean for transportation because they are dangerous.
- Do not touch heat exchanger fins with your bare hands. Otherwise you may get a cut in your hands.
- Tear plastic packaging bag and scrap it so that children cannot play with it. Otherwise plastic packaging bag may suffocate children to death.
- When carrying in outdoor unit, be sure to support it at four points. Carrying in and lifting with 3-point support may make outdoor unit unstable, resulting in it falling.
- The angles at which ropes suspending the unit should be at least 45° and 60°. (refer to Fig. II-3.0.1)

II-4. Installation of unit

II-4.1. Installation

[Fig. II-4.1.1]



- Fix unit tightly with bolts so that unit will not fall down due to earthquake or a gust of wind.
- Use concrete or angle for foundation of unit.

- Vibration may be transmitted to the installation section and noise and vibration may be generated from the floor and walls, depending on the installation conditions. Therefore, provide ample vibrationproofing (cushion pads, cushion frame, etc.).

- Be sure that the corners are firmly seated. If the corners are not firmly seated, the installation feet may be bent.

⚠ Warning:

- Be sure to install unit in a place strong enough to withstand the units weight. Any lack of strength may the cause unit to fall down, resulting in a personal injury.
- Have installation work in order to protect against a strong wind and earthquake. Any installation deficiency may cause the unit to fall down, resulting in a personal injury.

When building the foundation, give full attention to the floor strength, drain water disposal <during operation, drain water flows out of the unit>, and piping and wiring routes.

II-5. Refrigerant piping installation

Flare connection must be applied to the indoor unit and liquid piping of the outdoor unit, whilst flange connection must be applied to the gas piping of the outdoor unit. For the branching, brazing connection must be applied.

⚠ Warning:

Always use extreme care to prevent the refrigerant gas (R22) from leaking while using fire or flame. If the refrigerant gas comes in contact with the flame from any source, such as a gas stove, it breaks down and generates a poisonous gas which can cause gas poisoning. Never weld in an unventilated room. Always conduct an inspection for gas leakage after installation of the refrigerant piping has been completed.

II-5.1. Caution

- Commercially available piping often contains dust and other materials. Always blow it clean with a dry inert gas.
- Use care to prevent dust, water or other contaminants from entering the piping during installation.
- Reduce the number of bending portions as much as possible, and make bending radius as big as possible.
- Always observe the restrictions on the refrigerant piping (such as rated length, the difference between high/low pressures, and piping diameter). Failure to do so can result in equipment failure or a decline in heating/cooling performance.
- Never use refrigerant to perform an air purge. Always evacuate using a vacuum pump.
- Always insulate the piping properly. Insufficient insulation will result in a decline in heating/cooling performance, water drops from condensation and other such problems.
- When connecting the refrigerant piping, make sure the ball valve of the outdoor unit is completely closed (the factory setting) and do not operate it until the refrigerant piping for the outdoor and indoor units has been connected, a refrigerant leakage test has been performed and the evacuation process has been completed.

- Always use a non-oxidizing brazing material for brazing the parts. If a non-oxidizing brazing material is not used, it could cause clogging or damage to the compressor unit.

- Never perform outdoor unit piping connection work when it is raining.

⚠ Warning:

When installing and moving the unit, do not charge it with refrigerant other than the refrigerant specified on the unit.

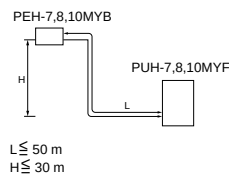
- Mixing of a different refrigerant, air, etc. may cause the refrigerant cycle to malfunction and result in severe damage.

II-5.2. Refrigerant piping system

Connection Example

[Fig. II-5.2.1]

(1) Single



A (mm)		
[A] Outdoor unit	[B] Gas pipe size	[C] Liquid pipe size
PUH-7, 8	ø25.4	ø15.88
PUH-10	ø28.6	ø15.88

B (mm)		
[D] Indoor unit	[B] Gas pipe size	[C] Liquid pipe size
PEH-7, 8	ø25.4	ø15.88
PEH-10	ø28.6	ø15.88

⚠ Caution:

- Total bends are 15 units.

II-6. Additional Refrigerant Charge

II-6.1. Additional refrigerant charge

The amount of refrigerant charged in this unit is appropriate for 5-meter long refrigerant pipes.

Refer to the table below and add the corresponding amount of refrigerant if the pipes are extended.

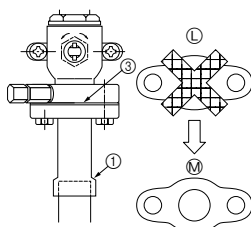
(The refrigerant is charged in the outdoor unit.)

charge amount R-22 (kg)	unit	Refrigerant piping length										Factory charge (kg)
		5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	
R-22 (kg)	PUH-7	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	5.7
	PUH-8											6.6
	PUH-10	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	9.9

II-6.2. Caution for piping connection/valve operation

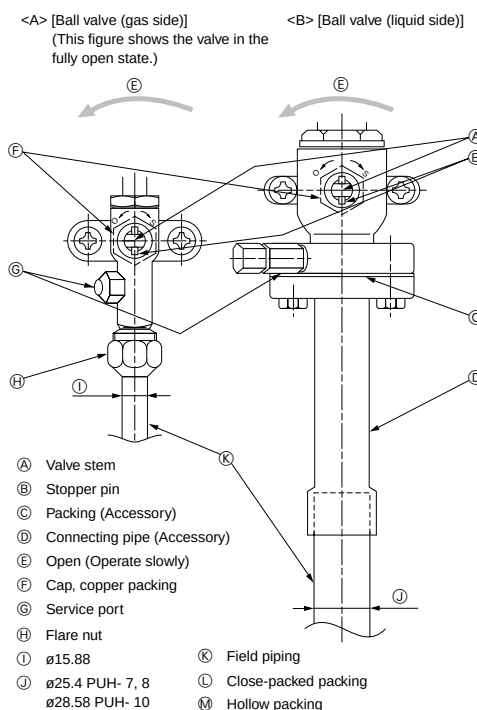
- Conduct piping connection and valve operation accurately.
- The gas side connecting pipe is being assembled for shipment.
 - For brazing to the connecting pipe with flange, remove the connecting pipe with flange from the ball valve, and braze it at the outside of the unit.
 - During the time when removing the connecting pipe with flange, remove the seal attached on the back side of this sheet and paste it onto the flange surface of the ball valve to prevent the entry of dust into the valve.
 - The refrigerant circuit is closed with a round, close-packed packing at the shipment to prevent gas leak between flanges. As no operation can be done under this state, be sure replace the packing with the hollow packing attached at the piping connection.
 - At the mounting of the hollow packing, wipe off dust attached on the flange sheet surface and the packing. Coat refrigerating machine oil (Ester oil, ether oil or alkylbenzene [small amount]) onto both surfaces of the packing.

[Fig. II-6.2.1]



- After evacuation and refrigerant charge, ensure that the handle is fully open. If operating with the valve closed, abnormal pressure will be imparted to the high- or low-pressure side of the refrigerant circuit, giving damage to the compressor, four-way valve, etc.
- Determine the amount of additional refrigerant charge by using the formula, and charge refrigerant additionally through the service port after completing piping connection work.
- After completing work, tighten the service port and cap securely not to generate gas leak.

[Fig. II-6.2.2]



- Ⓐ Valve stem
[Fully closed at the factory, when connecting the piping, when evacuating, and when charging additional refrigerant. Open fully after the operations above are completed.]
- Ⓑ Stopper pin [Prevents the valve stem from turning 90° or more.]
- Ⓒ Packing (Accessory)
[Manufacturer: Nichiasu corporation]
[Type: T#1991-NF]
- Ⓓ Connecting pipe (Accessory)
[Use packing and securely install this pipe to the valve flange so that gas leakage will not occur. (Tightening torque: 25 N·m (250 kg·cm)) Coat both surfaces of the packing with refrigerator oil (Ester oil, ether oil or alkylbenzene [small amount]).]
- Ⓔ Open (Operate slowly)
- Ⓕ Cap, copper packing
[Remove the cap and operate the valve stem. Always reinstall the cap after operation is completed. (Valve stem cap tightening torque: 25 N·m (250 kg·cm) or more)]
- Ⓖ Service port
[Use this port to evacuate the refrigerant piping and add an additional charge at the site.
Open and close the port using a double-ended wrench.
Always reinstall the cap after operation is completed. (Service port cap tightening torque: 14 N·m (140 kg·cm) or more)]
- Ⓗ Flare nut
[Tightening torque: 120 N·m (1200 kg·cm)
Loosen and tighten this nut using a double-ended wrench.
Coat the flare contact surface with refrigerator oil (Ester oil, ether oil or alkylbenzene [small amount]).]
- ① ø15.88
- ② ø25.4 PUH- 7, 8
ø28.58 PUH- 10
- Ⓚ Field piping
[Brazed to the connecting pipe. (When brazing, use unoxidized brazing.)]
- Ⓛ Close-packed packing
- Ⓜ Hollow packing

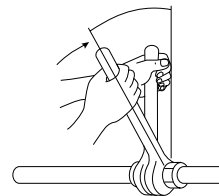
Appropriate tightening torque by torque wrench:

Copper pipe external dia. (mm)	Tightening torque (N·m) / (kg·cm)
ø6.35	14 to 18 / 140 to 180
ø9.52	35 to 42 / 350 to 420
ø12.7	50 to 57.5 / 500 to 575
ø15.88	75 to 80 / 750 to 800

Tightening angle standard:

Pipe diameter (mm)	Tightening angle (°)
ø6.35, ø9.52	60 to 90
ø12.7, ø15.88	30 to 60

[Fig. II -6.2.3]



Note:

If a torque wrench is not available, use the following method as a standard: When you tighten the flare nut with a wrench, you will reach a point where the tightening torque will abruptly increase. Turn the flare nut beyond this point by the angle shown in the table above.

⚠ Caution:

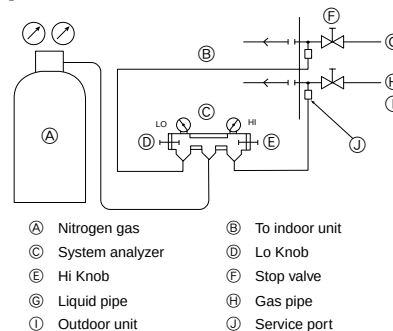
- **Always remove the connecting pipe from the ball valve and braze it outside the unit.**
- Brazing the connecting pipe while it is installed will heat the ball valve and cause trouble or gas leakage. The piping, etc. inside the unit may also be burned.

II -6.3. Airtight test, evacuation, and refrigerant charging

① Airtight test

Perform with the stop valve of the outdoor unit closed, and pressurize the connection piping and the indoor unit from the service port provided on the stop valve of the outdoor unit. (Always pressurize from both the liquid pipe and the gas pipe service ports.)

[Fig. II -6.3.1]

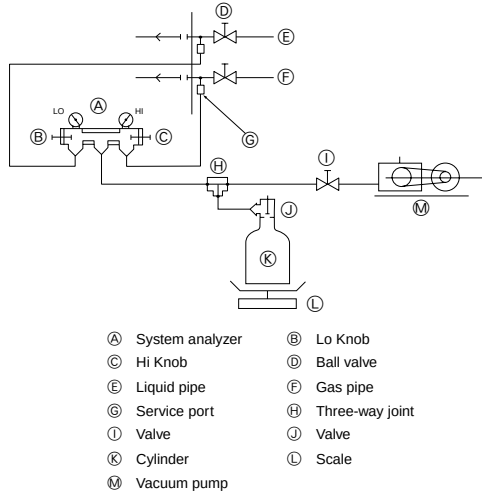


Airtight test procedure	Restriction
1. Nitrogen gas pressurization (1) After pressurizing to the design pressure (3.3 MPa) using nitrogen gas, let stand for about one day. If the pressure does not drop, airtightness is good. However, if the pressure drops, since the leaking point is unknown, the following bubble test may also be performed. (2) After the pressurization described above, spray the flare connection parts, brazed parts, flanges, and other parts that may leak with a bubbling agent (Kyuboflex, etc.) and visually check for bubbles. (3) After the airtight test, wipe off the bubbling agent.	• If a flammable gas or air (oxygen) is used as the pressurization gas, it may catch fire or explode.
2. Pressurization using refrigerant gas and nitrogen gas (1) Pressurizing to a gas pressure of approximately 0.2 MPa, pressurize to the design pressure (2.94 MPa) using nitrogen gas. However, do not pressurize at one time. Stop during pressurization and check that the pressure does not drop. (2) Check for gas leaks by checking the flare connection parts, brazed parts, flanges, and other parts which may leak using an R22 electric leak detector. (3) This test may be used together with bubble type gas leak test.	• Do not use a refrigerant other than that indicated on the unit. • Do not use a haloid torch. (Leaks cannot be detected.)

② Evacuation

Evacuate with the ball valve of the outdoor unit closed and evacuate both the connection piping and the indoor unit from the service port provided on the ball valve of the outdoor unit using a vacuum pump. (Always evacuate from the service port of both the liquid pipe and the gas pipe.) After the vacuum reaches 5 Torr, continue evacuation for at least one hour or more.
* Never perform air purging using refrigerant.

[Fig. II -6.3.2]



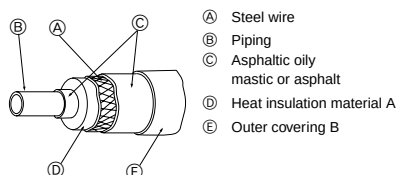
Note:

- Always add an appropriate amount of refrigerant. Also always seal the system with liquid refrigerant. Too much or too little refrigerant will cause trouble.
- Use a gauge manifold, charging hose, and other parts for the refrigerant indicated on the unit.
- Use a gravimeter. (One that can measure down to 0.1 kg.)

II -6.4. Thermal insulation of refrigerant piping

Be sure to give insulation work to refrigerant piping by covering liquid pipe and gas pipe separately with enough thickness heat-resistant polyethylene, so that no gap is observed in the joint between indoor unit and insulating material, and insulating materials themselves. When insulation work is insufficient, there is a possibility of condensation drip, etc. Pay special attention to insulation work to ceiling plenum.

[Fig. II -6.4.1]



Heat insulation material A	Glass fiber + Steel wire	
	Adhesive + Heat - resistant polyethylene foam + Adhesive tape	
Outer covering B	Indoor	Vinyl tape
	Floor exposed	Water-proof hemp cloth + Bronze asphalt
	Outdoor	Water-proof hemp cloth + Zinc plate + Oily paint

II -7. Wiring

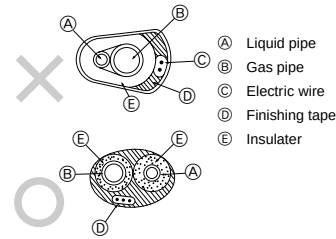
II -7.1. Caution

- Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.
- Set up the outdoor unit so that the wiring for the remote controller and the M-NET (MELANS) wiring do not produce electrical interference with the power supply cable. (Do not route them together in the same conduit.)
- Be sure to provide designated grounding work to outdoor unit.
- Give some allowance to wiring for electrical part box of indoor and outdoor units, because the box is sometimes removed at the time of service work.

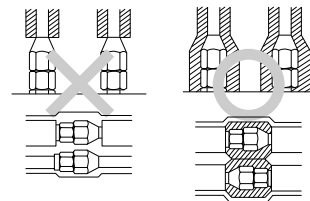
Note:

- When using polyethylene cover as covering material, asphalt roofing shall not be required.
- No heat insulation must be provided for electric wires.

[Fig. II -6.4.2]

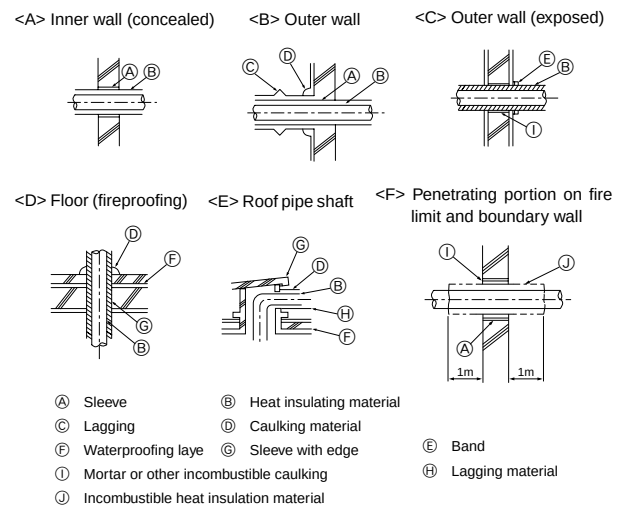


[Fig. II -6.4.3]



Penetrations

[Fig. II -6.4.4]



When filling a gap with mortar, cover the penetration part with steel plate so that the insulation material will not be caved in. For this part, use incombustible materials for both insulation and covering. (Vinyl covering should not be used.)

II-7.2. Wiring and fitting capacities

<PUH>

Main power supply wire thickness and switch capacities.

				PUH-7, 8	PUH-10	
Electrical work	Main wire	Outdoor Unit	Power supply thickness *1	mm ²	8 or more	14 or more
			Overcurrent protector *2	A	50	60
	Indoor Unit		Power supply thickness *1	mm ²	2.0	
			Overcurrent protector *2	A	15	
	Thickness of wires for remote controller and indoor unit *3			mm ²	0.8 or more *3	
	Thickness of wire between indoor and outdoor unit			mm ²	1.5 or more	
	Ground wire thickness			mm ²	8 or more	14 or more

Notes:

- *1: "Power supply thickness" indicates the thinnest allowable metal wire.
- *2: "Overcurrent protector" indications are for when class B fuse are used.
- *3: These wires are supplied with optional remote controller and branch piping.
- *4: Power supply codes of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (design 245 IEC 57).
- *5: A switch with at least 3 mm contact separation in each pole shall be provided by the Air conditioner installation.

Table above is an example. The selection of other capacities should be determined in accordance with the relevant standards.

Types of cable/cord

- Vinyl cab tire round cord: VCTF
- Vinyl insulating vinyl sheath cable round type: VVR

- Vinyl cab tire flat cord: VCTFK
- Vinyl insulating vinyl sheath cable flat type: VVF
- Vinyl insulating vinyl sheath cable for control: CVV
- 600 V vinyl cab tire cable: VCT
- Vinyl insulating vinyl sheath cable for control: CVS

⚠ Warning:

Be sure to use specified cables and connect them firmly so that no external wiring force is exerted on terminal connections. Loose connections may cause heat or fire.

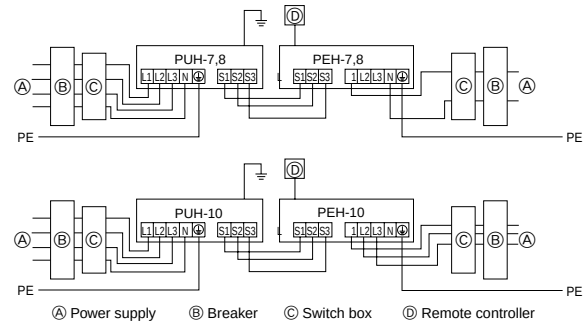
⚠ Caution:

- Some installation sites may required installation of an earth leakage breaker. Failure to install it may result in an electric shock.
- Always use an earth leakage breaker and fuse with the specified capacity. Use of a fuse with a capacity larger than that specified, or use of a piece of wire or copper wire may cause breakdown or fire.

Example

Connecting with PEH-MYB

[Fig. II-7.2.1]



TEST RUN

1.1. Before test run

The test run can be carried out either from the outdoor unit or the indoor unit.

1. Checklist

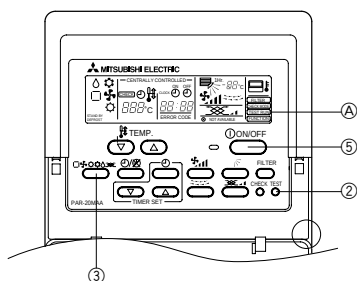
- After the installation, piping setup, and wiring of the indoor and outdoor units is complete, check that refrigerant is not leaking, the power and control wires are not loose, and the poles are not reversed.
- Use a 500 V insulation resistance tester to make sure that the resistance between the power terminal and the ground is 1.0 MΩ or more. If it is less than 1.0 MΩ, do not operate the unit. * Absolutely do not touch the tester to indoor/outdoor connection terminals S1, S2, and S3. An accident could occur.
- Make sure there is no malfunction in the outdoor unit. (If there is a malfunction, you can diagnose it using LED2 on the board.)
- Check that the ball valve is fully open on both the liquid and gas ends.
- Check the electrical power phase. If the phase is reversed, the fan may rotate in the wrong direction or stop, or unusual sounds may be produced.
- Starting at least 12 hours before the test run, send current through the crankcase heater. (If the current is running for a shorter period of time, damage to the compressor could result.)
- For specific models requiring changing of settings for higher ceilings or selection of power supply ON/OFF capability, make proper changes referring to the description for Selection of Functions through Remote Controller.

After the above checks are complete, carry out the test run as indicated in the following outline.

1.2. Test run procedures

1) Indoor unit

[Fig. 1.2.1]



Operating procedures

① Turn on the main power supply

While the room temperature display on the remote controller reads "CENTRALLY CONTROLLED", the remote controller is disabled. Turn off the "CENTRALLY CONTROLLED" display before using the remote controller.

② Press "TEST RUN" button twice

Ⓐ The "TEST RUN" indicator should light up.

③ Press button

Cooling/drying mode: Cool air should start to blow.

Heating mode: Warm air should start to blow (after a while).

④ Check the outdoor unit fan for correct running

The outdoor unit features automatic capacity control to provide optimum fan speeds. The fan keeps running at a low speed to meet the current outside air condition unless it exceeds its available maximum power. Then, in actuality, the fan may stop or run in the reverse direction depending on the outside air, which does not mean malfunction.

⑤ Press the "ON/OFF" button to reset the test run in progress

- The test run will be automatically shut down after two hours in response to the AUTO STOP setting of two hours on the timer.
- During the test run, the room temperature display shows the indoor unit tubing temperatures.
- In the case of the test run, the OFF timer will activate, and the test run will automatically stop after two hours.
- The room temperature display section shows the control temperature for the indoor units during the test run.
- Check that all the indoor units are running properly for simultaneous twin and triple operation.

Malfunctions may not be displayed even if the wiring is incorrect.

(*1)

After turning ON the power, the system will go into startup mode, and the remote controller operation lamp (red) and the room temperature display section's "H0" will flash. Also, in the case of the indoor substrate LEDs, LED 1 and LED 2 light up (when address is 0) or become dim (when address is not 0), and LED 3 flashes. In the case of the outdoor substrate LED display,  and  are displayed alternatively at 1-second intervals.

- If one of the above operations does not function correctly, the following causes should be considered, and if applicable, dealt with. (The following symptoms have been determined under test run mode. Note that "startup" in the chart means the *1 display above.)

Symptoms		Cause
Remote Controller Display	Outdoor Substrate LED Display	
Remote controller is displaying "H0", and operation is not possible.	After "startup" display, "00" is displayed (correct operation).	• After power is turned ON, system startup lasts for about 2 mins., and "H0" is displayed (correct operation).
After power is turned ON, "H0" is displayed for 3 mins., then error code is displayed.	After "startup" display, error code is displayed.	• Outdoor unit's safeguard installation connector is open.
	After "startup" display, "F1" (negative phase) is displayed.	• Negative phase and open phase of outdoor unit's power terminal board (Single phase: L, N, ⊕ / triple phase: L1, L2, L3, N, ⊕)
Power is turned ON, and "EE" or "EF" are displayed after "H0" is displayed.	After "startup" display, "00" or "EE" is displayed ("EE" is displayed when a test run is made).	• Incorrect connection of outdoor terminal board (Single phase: L, N, ⊕ / triple phase: L1, L2, L3, N, ⊕ grounding and S1, S2, S3)
Display messages do not appear even when remote controller operation switch is turned ON (operation lamp does not light up).	After "startup" display, "EA" (error for number of units) or "Eb" (unit number error) is displayed.	• Outdoor unit and indoor unit construction differ
	After "startup" display, "00" is displayed (correct operation).	• Wiring for the indoor and outdoor unit is not connected correctly. (Polarity is wrong for S1, S2, S3)
	After "startup" display, "00" is displayed (correct operation).	• Remote controller transmission wire short
	After "startup" display, "00" is displayed (correct operation).	• There is no outdoor unit for address 0 (address is something other than 0).
	After "startup" display, "00" is displayed (correct operation).	• Remote controller transmission wire burnout
Operation display appears but soon disappears even when remote controller operations are executed.	After "startup" display, "00" is displayed (correct operation).	• After cancellation of function selection, operation is not possible for about 30 secs. (correct operation).

* Press the remote controller's "CHECK" button twice consecutively to be able to run a self diagnosis. See the chart below for content of error code displays.

LCD	Nonconformity Content	LCD	Nonconformity Content	LCD	Nonconformity Content
P1	Suction sensor error	P8	Tube temperature error	E6 ~ EF	Signal error between indoor and outdoor units
P2	Tubing (liquid) sensor error	P9	Tube (2-phase tube) sensor error	---	No error history
P4	Drain sensor error	U0 ~ UP	Outdoor unit nonconformity	FFFF	No relevant unit
P5	Drain overflow safeguard operation	F1 ~ FA	Outdoor unit nonconformity		
P6	Freezing/overheating safeguard operation	E0 ~ E5	Signal error between remote controller and indoor unit		

See the chart below for details of the LED displays (LED 1, 2, 3) on the indoor substrate.

LED 1 (microcomputer power supply)	Displays the ON/OFF of power for control. Check that this is lit during normal use.
LED 2 (remote controller feed)	Displays the ON/OFF of feed to wired remote controller. Is only lit for indoor unit linked to outdoor unit with address "00".
LED 3 (indoor and outdoor signals)	Displays signal between indoor and outdoor units. Check that this is flashing during normal use.

2) Outdoor unit

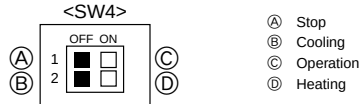
1) Check Items

- After installation of indoor and outdoor units, and piping and electric wiring work, check that the unit is free from leaks of refrigerant, loosened connections, and incorrect polarity.
- Check that there is no negative phase and open phase. (The F1 message for negative phase and the F2 message for open phase will flash at LED 1 on the outdoor substrate. If this happens, rewire correctly.)
- Measure the impedance between power terminals (Single phase: L, N, ⊕ / triple phase: L1, L2, L3, N, ⊕) and the ground with a 500 V Megger and check that it is 1.0 MΩ or more. Do not operate the equipment if measurement is less than 1.0 MΩ. * Never conduct this operation on the outdoor connection wiring terminals (S1, S2, S3) as this causes damage.
- When there is no error at the outdoor unit.
(If there is an error at the outdoor unit, it can be evaluated at LED 1 [digital display] of the outdoor substrate.)
- The stop valves are open both the liquid and gas sides.
After checking the above, execute the test run in accordance with the following.

2) Test run start and finish

- Operation from the indoor unit
Execute the test run using the installation manual for the indoor unit.
- Operation from the outdoor unit
Execute settings for test run start, finish and operation mode (cooling, heating) using the DIP switch SW 4 on the outdoor substrate.

[Fig. 1.2.2]



- Set the operation mode (cooling, heating) using SW 4-2
 - Turn ON SW 4-1, The operation mode for SW 4-2 will be adhered to, and the test run will commence
 - Turn OFF SW 4-1 to finish the test run
- There may be a faint knocking noise emitted from the proximity of the fan during the test run. This is torque fluctuation occurring due to control of fan revolutions. There is no problem with the product.

Note:

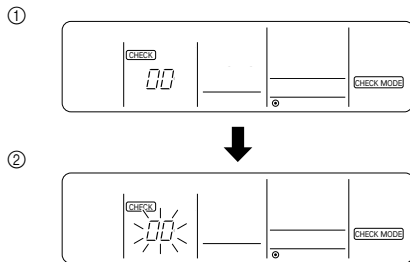
The SW 4-2 operation mode cannot be changed during the test run. (To change test run mode, stop the equipment with SW 4-1, change the operation mode, then restart test run with SW 4-1.)

- If the 2-hour timer is set, the test run will stop automatically after 2 hours.
- During the test run, the room temperature display on the indoor unit will indicate the temperature of the indoor unit piping.

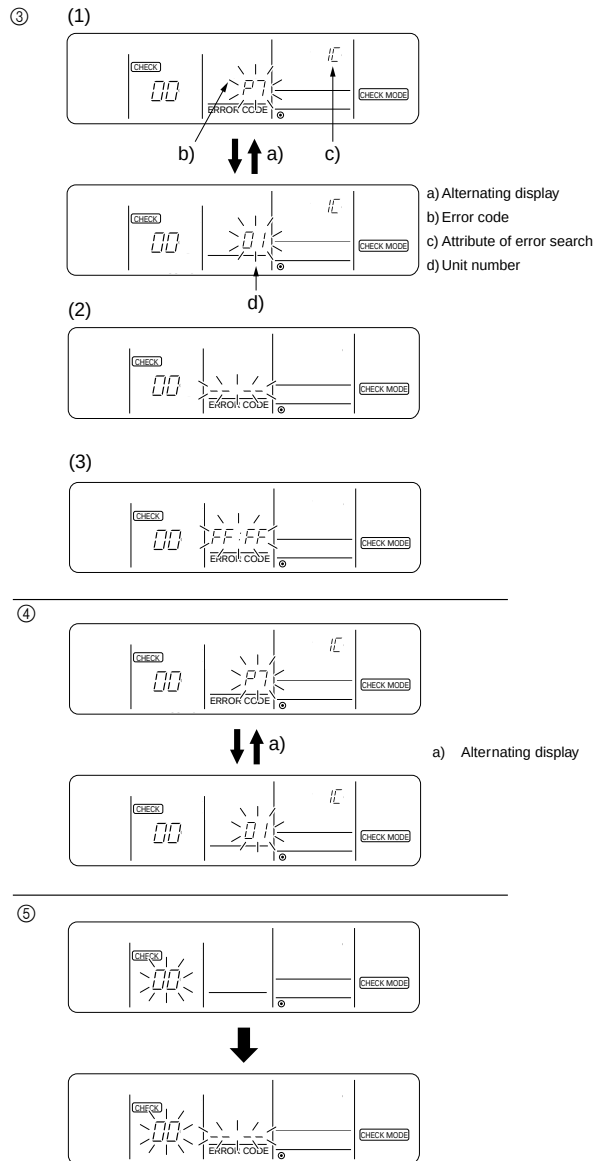
1.3. Self-diagnosis

Use the remote controller to look up each units error history.

[Fig. 1.3.1]



[Fig. 1.3.1]



① Change to self-diagnosis mode

Press the CHECK button twice within three seconds to show the following display.

② Select the refrigerant address number to be self-diagnosed

Press the Δ ∇ buttons to scroll through the refrigerant address numbers (00 to 15) and select the refrigerant address number to be self-diagnosed. After three seconds from making the change, the lit refrigerant address to be self-diagnosed will start to flash, and self-diagnosis will commence.

③ Self-diagnosis result display

See the above chart for details of error code contents.

- When there is an error history
 - When there is no error history
 - When the address does not exist
- a) Alternating display b) Error code
c) Attribute of error search d) Unit number

④ Reset error history

Display the error history at the self-diagnosis result display screen ③.

The address for self-diagnosis will flash when the $\odot$ - $\odot$ - $\odot$ button is pressed twice within three seconds.

The diagram on the left will be displayed when error history has been reset. Note that the error content will be redisplayed if error history resetting is unsuccessful.

- a) Alternating display

⑤ Canceling self-diagnosis

The following two methods can be used to cancel self-diagnosis.

Press the CHECK button twice within three seconds to cancel self-diagnosis. The display screen will return to the status before self-diagnosis.

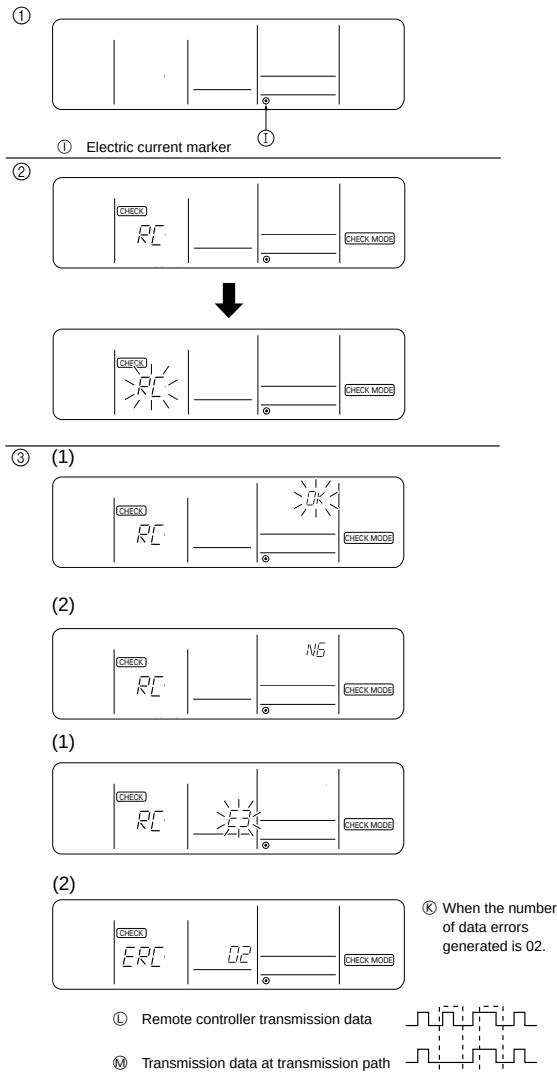
Press the ① ON/OFF button to cancel self-diagnosis. The indoor unit will stop.

(This operation is ineffectual when operation is prohibited.)

1.4. Remote controller diagnosis

If operation cannot be carried out from the remote controller, use this function to diagnose the remote controller.

[Fig. 1.4.1]



① First, check the electricity current marker

If the correct voltage (DC 12 V) is not displayed on the remote controller, the electric current marker will be lit.

If the electricity current marker is not lit, check the remote controller wiring and the indoor units.

① Electric current marker

② Transfer to remote control mode

Hold down the CHECK button for five seconds or more to display the diagram on the left.

Press the FILTER button to commence diagnosis of remote controller.

③ Remote controller diagnosis results

(1) The remote control is functioning correctly.

Check other possible causes as there are no problems with the remote controller.

(2) The remote controller has a nonconformity.

The remote controller must be replaced.

Error display 1 ("NG") flashes to show a nonconformity in the transmitter-receiver circuit.

Potential problems other than those diagnosed for the remote controller.

(1) Single transmission not possible if error display 2 ("E3") flashes.

There is "noise" on the transmission line, or damage of other remote controllers for the indoor units can be considered. Check the transmission path and other controllers.

(2) Data error has occurred when error display three shows "ERC" and number of data errors.

Number of generated data errors (maximum 66 errors).

The number of generated data errors stands for the difference in the number of bits of transmitted data from the remote controller and the actual number of bits that were transmitted along the transmission path. If this error occurs, "noise", etc., is interfering with the transmission data. Check the transmission path.

Ⓚ When the number of data errors generated is 02

Ⓛ Remote controller transmission data

Ⓜ Transmission data at transmission path

④ Cancel the remote controller diagnosis

Hold down the CHECK button for five seconds or more to cancel the remote controller diagnosis. The "H0" operation lamp will flash, and the display screen will return to the status before remote controller diagnosis in approximately 30 seconds.

STANDARD OPERATION DATA

(1) PEH-7MYB/PUH-7MYF

Operation condition			Cooling			Heating		
Operation condition	Voltage	V	380	400	415	380	400	415
	Power source frequency	Hz	50	50	50	50	50	50
	Indoor air conditioning (DB/WB)	°C	27/19	27/19	27/19	20/-	20/-	20/-
	Outdoor air conditioning (DB/WB)	°C	35/24	35/24	35/24	7/6	7/6	7/6
	Piping length	m	5	5	5	5	5	5
	Refrigerant charge	kg	5.7	5.7	5.7	5.7	5.7	5.7
Electrical characteristics	Outdoor unit	Total current	A	12.2	12.1	12.0	11.3	11.3
		Total Input	kW	6.5	6.5	6.5	6.1	6.1
		Compressor current	A	11.7	11.6	11.5	10.8	10.8
		Fan current	A	0.47	0.46	0.46	0.47	0.46
	Indoor unit	Total Current	A	3.2	3.1	3.0	3.2	3.1
		Total Input	kW	0.7	0.7	0.7	0.7	0.7
Refrigerant circuit	Discharge pressure		MPa	1.97	1.97	1.97	1.81	1.81
	Suction pressure		MPa	0.46	0.46	0.46	0.35	0.35
	Discharge refrigerant temperature		°C	95	95	95	85	85
	Suction refrigerant temperature		°C	8	8	8	-1	-1
	Liquid pipe temperature		°C	46	46	46	1	1
	Compressor shell bottom temperature		°C	55	55	55	40	40

(2) PEH-8MYB/PUH-8MYF

Operation condition			Cooling			Heating		
Operation condition	Voltage	V	380	400	415	380	400	415
	Power source frequency	Hz	50	50	50	50	50	50
	Indoor air conditioning (DB/WB)	°C	27/19	27/19	27/19	20/-	20/-	20/-
	Outdoor air conditioning (DB/WB)	°C	35/24	35/24	35/24	7/6	7/6	7/6
	Piping length	m	5	5	5	5	5	5
	Refrigerant charge	kg	6.6	6.6	6.6	6.6	6.6	6.6
Electrical characteristics	Outdoor unit	Total Current	A	14.1	14.0	14.0	12.0	11.9
		Total Input	kW	7.7	7.7	7.7	6.2	6.2
		Compressor current	A	13.6	13.5	13.5	11.4	11.4
		Fan current	A	0.46	0.45	0.45	0.46	0.45
	Indoor unit	Total Current	A	4.1	4.0	4.0	4.1	4.0
		Total Input	kW	0.89	0.89	0.89	0.89	0.89
Refrigerant circuit	Discharge pressure		MPa	2.16	2.16	2.16	1.58	1.58
	Suction pressure		MPa	0.49	0.49	0.49	0.30	0.30
	Discharge refrigerant temperature		°C	95	95	95	85	85
	Suction refrigerant temperature		°C	9	9	9	-4	-4
	Liquid pipe temperature		°C	46	46	46	0	0
	Compressor shell bottom temperature		°C	55	55	55	40	40

(3) PEH-10MYB/PUH-10MYF

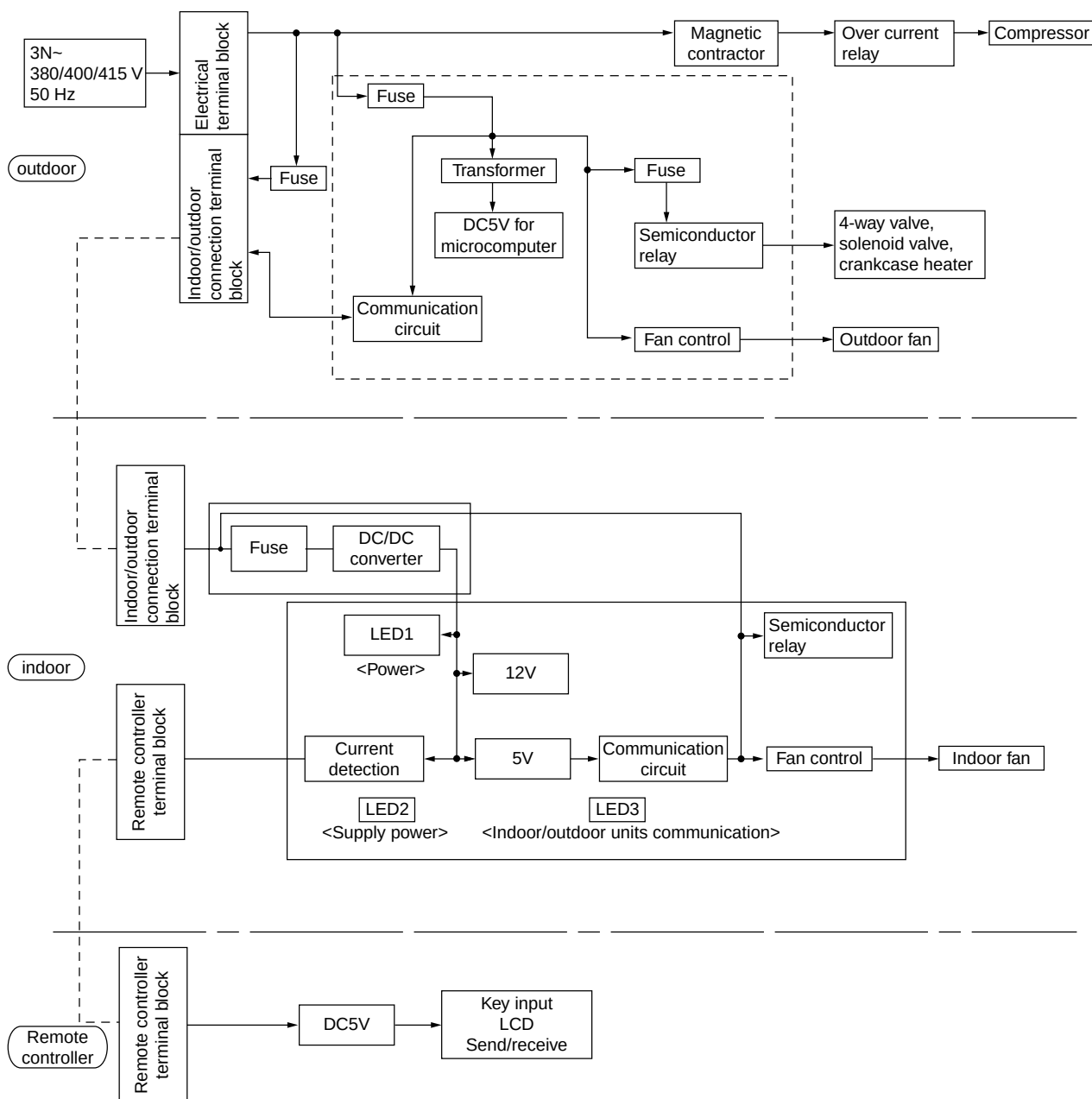
Operation condition			Cooling			Heating		
Operation condition	Voltage	V	380	400	415	380	400	415
	Power source frequency	Hz	50	50	50	50	50	50
	Indoor air conditioning (DB/WB)	°C	27/19	27/19	27/19	20/-	20/-	20/-
	Outdoor air conditioning (DB/WB)	°C	35/24	35/24	35/24	7/6	7/6	7/6
	Piping length	m	5	5	5	5	5	5
	Refrigerant charge	kg	9.9	9.9	9.9	9.9	9.9	9.9
Electrical characteristics	Outdoor unit	Total Current	A	17.9	17.8	17.7	15.0	15.0
		Total Input	kW	9.8	9.8	9.8	7.7	7.7
		Compressor current	A	17.1	17.0	16.9	14.3	14.3
		Fan current	A	0.75	0.75	0.75	0.7	0.7
	Indoor unit	Total Current	A	1.9	1.8	1.8	1.9	1.8
		Total Input	kW	1.12	1.12	1.12	1.12	1.12
Refrigerant circuit	Discharge pressure		MPa	2.13	2.13	2.13	1.54	1.54
	Suction pressure		MPa	0.49	0.49	0.49	0.31	0.31
	Discharge refrigerant temperature		°C	90	90	90	80	80
	Suction refrigerant temperature		°C	7	7	7	-4	-4
	Liquid pipe temperature		°C	47	47	47	0	0
	Compressor shell bottom temperature		°C	55	55	55	40	40

SERVICE DATA

1 CONTROL

[1] Composition of Control

① Function block diagram



[2] Control specifications

(1) Protection functions

- 1) The main protection devices for the outdoor unit are:
 - ① High pressure protection (63H1)
 - ② Compressor overcurrent protection (51C)
 - ③ Liquid temp thermistor trouble (TH1)
 - ④ Discharge temperature protection (TH2 ≥ 135 °C)
 - ⑤ Discharge temp thermistor trouble (TH2)
 - ⑥ Condenser/evaporator temp thermistor trouble (TH3)
- 2) When tripping of a detection device is sensed, the check mode is entered and the compressor is stopped. (After 3 minutes, the compressor restarts.) Thereafter, the compressor is stopped when the specified number of check modes or greater is sensed within the check time.

Protection functions	Operation value	Detection condition	Number of check modes	Check time
① High pressure protection (63H1)	3.3 MPa	Compressor operating	0	–
② Compressor overcurrent protection (51C)	PUH-7MYF: 19.0 A PUH-8MYF: 22.0 A PUH-10MYF: 31.0 A	Compressor operating	1 time	30 minutes
③ Liquid temp thermistor trouble (TH1)	Less than –39 °C or greater than 88 °C	Compressor operating except for 10 minutes at end of defrosting and 7 minutes while compressor starting	1 time	30 minutes
④ Discharge temperature protection (TH2 ≥ 135 °C)	Greater than 135 °C	Compressor operating	2 times	30 minutes
⑤ Discharge temp thermistor trouble (TH2)	Less than 0 °C or greater than 216 °C	Compressor operating except for 10 minutes at end of defrosting and 5 minutes while compressor starting	1 time	30 minutes
⑥ Condenser/evaporator temp thermistor trouble (TH3)	Less than –39 °C or greater than 88 °C	Compressor operating except for 10 minutes at end of defrosting and 7 minutes while compressor starting	1 time	30 minutes

- 3) Check mode is released by stopping operation, changing the operation mode, or check mode time up. A check mode is also released by stopping of operation by remote controller.
- 4) Detected check mode history (newest) and abnormality history (last 2 times) are memorized and are displayed on the segment by circuit board DIP switch setting.
The operation mode when the newest abnormality was generated, the thermistor temperature (TH1,2,3), and the thermostat ON time can also be displayed.

(2) Compressor, 4-way valve, and crankcase heater control

- 1) Determines the operation mode and operates the compressor based on the indoor/outdoor communication or M-NET communication data.
- 2) Compressor control has a function which prevents the compressor from restarting within 3 minutes.
- 3) The 4-way valve is always ON during heating (except during defrosting). In other modes, it is OFF. However, when the operation mode was changed from heating to stop, the 4-way valve is turned off 10 minutes after the compressor was stopped.
- 4) While the compressor is stopped, the crankcase heater remains ON. (OFF while the compressor is operating.)
- 5) When the operation mode is changed while the compressor is operating, the compressor stops and 3 minutes later restarts in the new mode.

(3) Fan control

Controls the fan speed based on the piping temperature (TH1) to perform cooling at low outdoor temperatures and heating at high outdoor temperatures.

1) Control at cooling

- ① When the compressor stops, the fan stops (fan output = 0 %).
- ② When the power is turned on, or when the compressor is restarted after it has been stopped for 30 minutes or longer, the piping temperature (TH1) determines the fan output.

When $TH \geq 25\text{ }^{\circ}\text{C}$ Fan output = 100 %
 When $TH < 25\text{ }^{\circ}\text{C}$ Fan output = 60 %
- ③ When the compressor is restarted within 30 minutes after it has been stopped, the fan step before the compressor was stopped is selected. However, when the fan output was under 30% when the fan was stopped, 30 % is selected.
- ④ When the mode was changed from heating to cooling, the fan step conforms to item ②.
- ⑤ Two minutes after the fan is started, the fan step (number of units) is controlled every 30 seconds based on the piping temperature (TH1).
- ⑥ When TH1 reaches $50\text{ }^{\circ}\text{C}$ or higher, or when the control high pressure switch (63H2) tripped, the fan output becomes 100 %.
- ⑦ Fan output while the compressor is operating is within the 20 % to 100 % range.

• FAN step

The following expression determines the next fan step count n_{j+1} :

$$n_{j+1} = n_j + \Delta n_j$$

n_j : Current fan step, Δn_j : Displacement step amount

n_j control

- If $n_{j+1} \geq 100\%$ $n_{j+1} = 100\%$
- If $n_{j+1} \leq 20\%$ $n_{j+1} = 20\%$
- If $TH1 \geq 50\text{ }^{\circ}\text{C}$ or 63H2 is "OFF" $n_{j+1} = 100\%$

FAN Δn_j

Outputs are all %.

Target condensation temperature $31\text{ }^{\circ}\text{C}$		Condensation temperature TH1										
		$t > 49\text{ }^{\circ}\text{C}$	$t = 49$ $t > 46$	$t = 46$ $t > 43$	$t = 43$ $t > 40$	$t = 40$ $t > 36$	$t = 36$ $t > 33$	$t = 33$ $t > 29$	$t = 29$ $t > 26$	$t = 26$ $t > 23$	$t = 23$ $t > 20$	$t \leq 20\text{ }^{\circ}\text{C}$
Current output	$20 \leq n_j < 50$	5	3	2	2	2	2	0	-2	-2	-3	-5
	$50 \leq n_j \leq 100$	10	4	3	2	2	2	0	-2	-2	-4	-10

* In the night mode, the maximum value of n_j is 80%. (When $TH1 < 50\text{ }^{\circ}\text{C}$)

2) Control at heating

- ① When the compressor is stopped and during defrosting, the fan is stopped.
- ② When the power is turned on, or when the compressor is restarted after being stopped for 30 minutes or longer, the piping temperature (TH1) determines the fan step.

$TH1 > 8\text{ }^{\circ}\text{C}$ Fan output = 60 %
 $TH1 \leq 8\text{ }^{\circ}\text{C}$ Fan output = 100 %
- ③ When the compressor is restarted within 30 minutes, the fan step is the step before the compressor was stopped.
- ④ When the mode is changed from cooling to heating, the fan step conforms to item ②.
- ⑤ When returning from defrosting, the fan step is the step before defrosting.
- ⑥ Two minutes after the fan was restarted, the fan step is controlled every 30 seconds based on the piping temperature (TH1).
- ⑦ When TH1 is $-5\text{ }^{\circ}\text{C}$ or lower, the fan output is made 100 %.

• FAN step

The following expression determines the next fan step count nj+1:

$$nj+1 = nj + \Delta nj$$

nj: Current fan step, Δnj : Displacement step amount

nj control

- If $nj+1 \geq 100\%$ $nj+1 = 100\%$
- If $nj+1 \leq 20\%$ $nj+1 = 20\%$
- If $TH1 < -5\text{ }^{\circ}\text{C}$ $nj+1 = 100\%$

FAN Δnj

Outputs are all %.

Target evaporation temperature 10 °C		Evaporation temperature TH1										
		$T > 19\text{ }^{\circ}\text{C}$	$T = 19$ $T > 17$	$T = 17$ $T > 15$	$T = 15$ $T > 13$	$T = 13$ $T > 11$	$T = 11$ $T > 8$	$T = 8$ $T > 6$	$T = 6$ $T > 4$	$T = 4$ $T > 2$	$T = 2$ $T > 0$	$T \leq 0\text{ }^{\circ}\text{C}$
Current output	$20 \leq nj + 1 \leq 100$	-10	-4	-3	-2	-2	0	2	2	3	4	10

(4) Defrosting control

- 1) When the following conditions are satisfied, defrosting starts:
 - ① When the integrated compressor operation time has exceeded T1 (initial setting 50 minutes) and the piping temperature (TH1) is below $-10\text{ }^{\circ}\text{C}$
 - ② When the integrated compressor operation time has exceeded 30 minutes and the piping differential temperature is $\Delta TH1 \geq 8$, $TH1 \leq -10\text{ }^{\circ}\text{C}$

Piping differential temperature

$$\Delta TH1 = TH10 - TH1$$

Current piping temperature

Piping temperature 10 minutes after starting or
10 minutes after returning from defrosting

- 2) The defrosting prohibit time T1 is set as following based on the defrosting time T2:

$T2 \leq 3$ (minutes)	$T1$ 60 (minutes)
$3 < T2 < 15$	40
$T2 = 15$	30

Note: T1 is reset at the end of defrosting, or by cooling ON command.

Note: When the compressor was stopped during defrosting, T1 = 20 minutes is set to recognize the stop as defrosting end.

- 3) During defrosting, all the outdoor fans are stopped and the bypass solenoid valve (SV1) is turned ON and the 4-way valve (21S4) is turned OFF.
- 4) When the following conditions are satisfied, defrosting ends:
 - ① $3 < T2 \leq 5$ mins $TH1 \geq 25\text{ }^{\circ}\text{C}$
 - ② $5 < T2 < 15$ minutes $TH1 \geq 8\text{ }^{\circ}\text{C}$ continuous 2 minutes
 - ③ $T2 = 15$ minutes or 63H2 operate
- 5) When the fan and 4-way valve (21S4) are turned ON at the end of defrosting, the heating mode is reset. Two minutes after defrosting reset, the bypass solenoid valve (SV1) turns OFF.

(5) Bypass solenoid valve control (SV1)

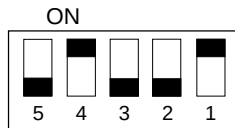
- 1) Control at cooling
 - ① While the compressor is stopped, the solenoid valve is OFF.
 - ② When the power is turned on, or when the compressor is restarted after it has been stopped for 30 minutes or longer, if the liquid temperature (TH1) in 25 °C or higher then the solenoid valve turns ON for 2 minutes.
 - ③ When the mode is changed from heating to cooling, solenoid valve operation conforms to item ②.
- 2) Control at heating
 - ① While the compressor is stopped, the solenoid valve is OFF.
 - ② When the power is turned on, or the compressor is restarted after it has been stopped for 30 minutes or longer, the solenoid valve turns ON for 2 minutes.
 - ③ When the mode is changed from cooling to heating, the solenoid valve turns ON for 2 minutes at starting.
 - ④ When the control pressure switch (63H2) trips, the solenoid valve turns ON.
 - ⑤ If 63H2 resets 15 minutes after tripping, the solenoid valve turns OFF.
 - ⑥ During defrosting, the solenoid valve turns ON.

(6) Service functions

- 1) Abnormality history clear
 - ① When DIP SW1-2 is turned ON while the compressor is operating or stopped, the abnormality history is cleared.

(7) Function of switch on indoor circuit board (indoor unit)

- 1) DIP SW1 for model Selection (DIP SW1 has been set at factory)

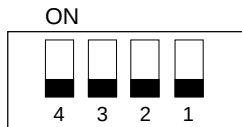


PEH-10MYB : SW1-1, -4 ON, SW1-2, -3, -5 OFF



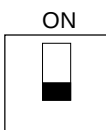
PEH-7, 8MYB : SW1-2, -4 ON, SW1-1, -3, -5 OFF

- 2) DIP SW2 for Capacity Setting (DIP SW2 has been set at factory)



PEH-7, 8, 10MYB : SW2-1, -2, -3 and, -4 OFF

- 3) DIP SWE for Emergency Operation



When SWE is turned ON, FAN turns ON. Setting of emergency operation other than SWE is performed at the outdoor unit.

[3] Function of switches and connectors (outdoor unit)

(1) Function of switches

1) Function of switches

(Normal mode)

(Normal mode)			Normal mode				
			SW3 = Unrelated				
Kind of switch	Switch	Pole	Function	Operation by switch operation		Switch effective timing	
				ON	OFF		
DIP SW	SW1 CN33 When open (Normal)	1	None	—	—	—	
		2	Abnormality history clear	Clear	Normal	Running or stopped	
		3	Refrigerant system address setting	1 2 3 4 5 6 ON OFF 0 1 2 3 4 5 6 ON OFF 1 1 2 3 4 5 6 ON OFF 2 1 2 3 4 5 6 ON OFF 3 1 2 3 4 5 6 ON OFF 4 1 2 3 4 5 6 ON OFF 5 1 2 3 4 5 6 ON OFF 6 1 2 3 4 5 6 ON OFF 7 1 2 3 4 5 6 ON OFF 8 1 2 3 4 5 6 ON OFF 9 1 2 3 4 5 6 ON OFF 10 1 2 3 4 5 6 ON OFF 11 1 2 3 4 5 6 ON OFF 12 1 2 3 4 5 6 ON OFF 13 1 2 3 4 5 6 ON OFF 14 1 2 3 4 5 6 ON OFF 15 → Shows that Nos. 3, 4, 5 , and 6 of SW1 are ON.		When power turned on	
		4					
		5					
		6					
	SW2	1	Self diagnosis	See pages 29 to 34.		Running or stopped	
		2					
		3					
		4					
		5					
		6					
	Tact SW	SW3		Mode input register	Register	Normal	stopped
	DIP SW	SW4	1	Trial run	Operate	Stop	stopped*1
			2	Trial run mode switching	Heat	Cool	stopped
DIP SW	SW5	1	None	—		—	
		2	3-phase power source detection	Do not	Do	When power turned on	
		3	Cooling only switching	Cooling only	Heat pump	When power turned on	
		4	Model setting	PUH-10MYF	PUH-7, 8MYF		

2) Switch functions at set mode change

			Set input mode			
			CN33 = short SW3 = ON*2			
Kind of switch	Switch	Pole	Function	Operation by switch operation		Switch effective timing
				ON	OFF	
DIP SW	SW1 When CN33 shorted (mode switching)	1	None	—	—	—
		2	Low noise mode	Low noise mode	—	stopped
		3	Night mode	Night mode	Normal mode	stopped
		4	Defrosting end switching	20 °C continuous 2 min-utes	8 °C continuous 2 min-utes	stopped
		5	Defrosting prohibit time switching	Fixed	Training	stopped
		6	None	—	—	—
Remarks	*1 Trial run performs trail run processing by input change while stopped. (For details, see the trail run section)					
	*2 Mode input is entered by SW3 OFF→ON change (). Press and hold down SW3 for about 2 seconds. The set mode can be registered according to the outdoor unit setting information on page 31.					

Note: After changing the mode by CN33 shorting (mode switching), return to the normal mode by opening CN33.

3) Connector function assignment

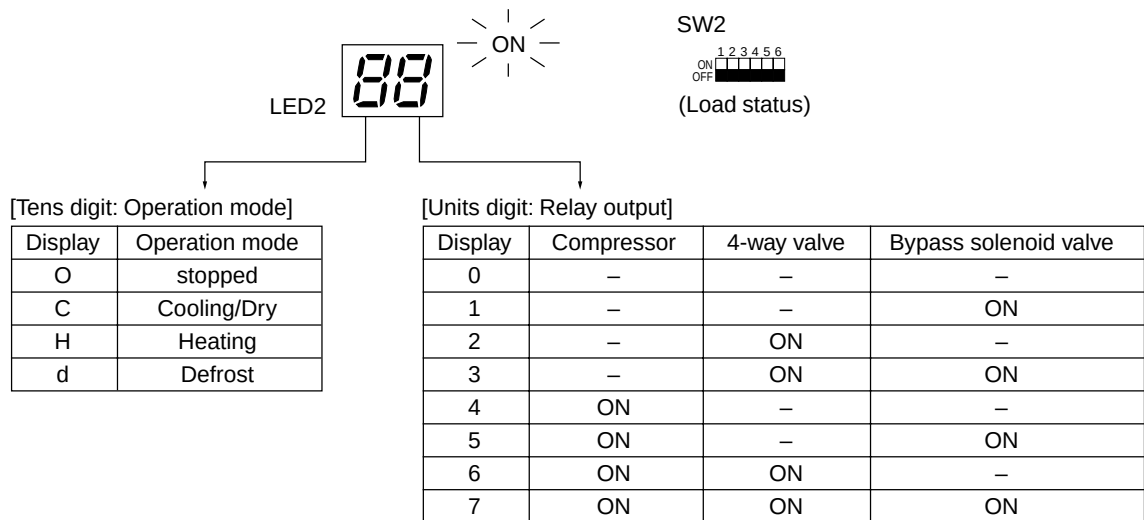
Type	Connector	Function	Operation by open/short		Switch effective timing
			short	open	
Connector	CN31	Emergency operation	Start	Normal	At initialization
	CN32	Function test	Function mode	Normal	At initialization
	CN33	DIP switch mode switching	Mode switching	Normal	stopped

<Outdoor unit operation monitoring function>

The operation status and check code contents can be ascertained by means of the 2-digit number and symbol on digital display light emitting diode LED2 by operating DIP switch SW2.

<Description of operation of digital display light emitting diode (LED2)>

- When ON (normal operation): Displays the operation mode.



- When blinking (Operation stopped by tripping protection device): Displays the check mode

Display	Check unit
0	Outdoor unit
1	Indoor unit 1
2	Indoor unit 2
3	Indoor unit 3
4	Indoor unit 4

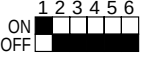
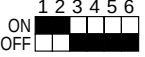
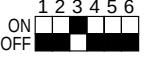
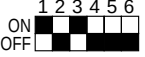
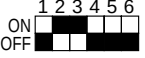
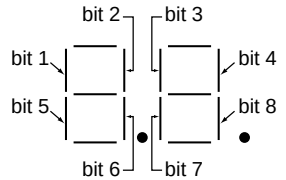
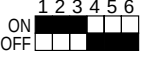
Display	Check contents (at power on)
E8	Indoor-outdoor communication receive abnormal (outdoor unit)
E9	Indoor-outdoor communication send abnormal (outdoor unit)
EA	Indoor/outdoor connection erroneous wiring, number of indoor units mismatch
Eb	Indoor/outdoor connection erroneous wiring (indoor unit power failure, disconnection)
Ed	Serial communication abnormal (M-NET)
E0-E7	Communication other than outdoor unit abnormal
F8	Input circuit faulty

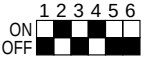
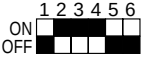
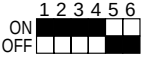
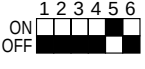
- PUH-7, 8, 10MYF

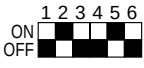
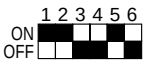
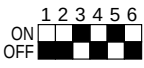
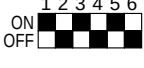
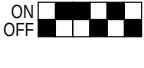
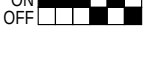
Display	Check contents (operating)
U2	Compressor discharge temperature abnormal, CN23 short-circuit connector unplugged
U3	Compressor discharge temp thermistor (TH2) open/short
U4	Liquid temp thermistor (TH1), Condenser/evaporater temp thermistor (TH3) open/short
U6	Compressor overcurrent protection trip (51C trip), (49C trip)
UE	High pressure protection (63H1 trip)
P1-P8	Indoor unit abnormal
A0-A8	M-NET communication abnormal

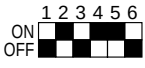
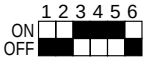
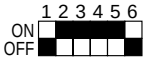
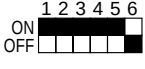
Self diagnosis by SW2

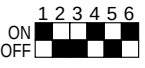
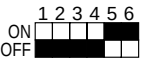
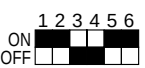
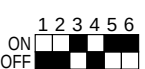
- PUH-7, 8, 10MYF

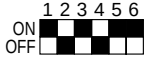
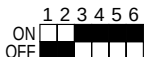
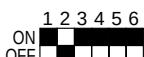
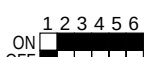
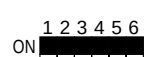
SW2 setting	Display contents	Description of display		Unit
	Liquid temperature (TH1) -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) <Example> When -10, every other second - □ ←→ 10		°C
	Discharge temperature (TH2) 0 - 216	0 - 216 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 115, every other second 1 □ ←→ 15		°C
	FAN output 0 - 100	0 - 100 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 100, every other second 1 □ ←→ 00		%
	Number of compressor ON/OFF 0 - 999	0 - 999 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 425, every other second 4 □ ←→ 25		100 times
	Compressor integrated operation time 0 - 999	0 - 999 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 245, every other second 2 □ ←→ 45		10 hours
	Current check mode code 1	Check mode segment display method Segment and bit correspondence 	Check mode 1 display method bit 1 Compressor discharge temperature abnormal bit 2 Compressor discharge temp thermistor abnormal (TH2) bit 3 CN23 short-circuit connector unplugged bit 5 Liquid temp thermistor abnormal (TH1)	
	Current check mode code 2		Check mode 2 display method bit 1 Overcurrent trip (Comp) bit 2 Low pressure protection	

SW2 setting	Display contents	Description of display	Unit
	Newest check code Newest outdoor unit abnormality Check display	When no check mode, "00" <Example> When piping thermistor abnormal U4	Code display
	Operation mode when abnormality occurred	Operation mode when abnormally stopped <Example> Comp only ON at cooling operation C4	Code display
	Liquid temperature (TH1) when abnormality occurred - 39 - 88	-39 - 88 (When 0 °C or lower, "-" and temperature are displayed alternately.) <Example> When -15, every other second - □ ↔ 15	°C
	COMP discharge temperature (TH2) when abnormality occurred 0 - 216	0 - 216 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 130, every other second 1 □ ↔ 30	°C
	Check code history (1) (newest) Abnormal unit No. and check code inverted display	When no abnormality history "0", "↔", "-"	Code display
	Check code history (2) (One before newest) Abnormal unit No. and check code inverted display	When no abnormality history "0", "↔", "-"	Code display
	Current thermostat ON time 0 - 999	0 - 999 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 245, every other second 2 □ ↔ 45	Minutes
	Number of indoor units connected 0 - 4	0 - 4	Units

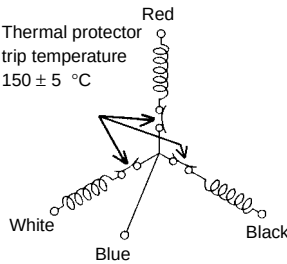
SW2 setting	Display contents	Description of display	Unit																								
	Outdoor unit set information 1	Outdoor unit capacity is displayed as function code. <table><tr><td>Model name</td><td>function code</td></tr><tr><td>PEH-7</td><td>20</td></tr><tr><td>PEH-8</td><td>20</td></tr><tr><td>PEH-10</td><td>25</td></tr></table>	Model name	function code	PEH-7	20	PEH-8	20	PEH-10	25	Code display																
Model name	function code																										
PEH-7	20																										
PEH-8	20																										
PEH-10	25																										
	Outdoor unit set information 2	<table><tr><td></td><td>Outdoor unit set information 1</td><td colspan="2">Function setting (display valves)</td></tr><tr><td rowspan="3">Tens digit</td><td>3-phase power source detection</td><td>Do (1)</td><td>Do not (0)</td></tr><tr><td>Cooling only switching</td><td>Cooling only (2)</td><td>H/P (0)</td></tr><tr><td>Night mode</td><td>Night mode (1)</td><td>Normal mode (0)</td></tr><tr><td rowspan="3">Units digit</td><td>Defrosting end time</td><td>20 °C continuous 2 minutes (2)</td><td>8 °C continuous 2 minutes (0)</td></tr><tr><td>Defrosting prohibit time</td><td>Fixed (4)</td><td>Training (0)</td></tr><tr><td>Low noise mode</td><td>Low noise (8)</td><td>No (0)</td></tr></table> Set information display values are added and displayed at each position.		Outdoor unit set information 1	Function setting (display valves)		Tens digit	3-phase power source detection	Do (1)	Do not (0)	Cooling only switching	Cooling only (2)	H/P (0)	Night mode	Night mode (1)	Normal mode (0)	Units digit	Defrosting end time	20 °C continuous 2 minutes (2)	8 °C continuous 2 minutes (0)	Defrosting prohibit time	Fixed (4)	Training (0)	Low noise mode	Low noise (8)	No (0)	Code display
	Outdoor unit set information 1	Function setting (display valves)																									
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	Indoor unit piping temperature (TH2) Indoor 1 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C																								
	Indoor unit piping temperature (TH2) Indoor 2 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C																								
	Indoor unit piping temperature (TH2) Indoor 3 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C																								
	Indoor unit piping temperature (TH2) Indoor 4 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C																								
	Indoor intake temperature 8 - 39.5	8 - 39.5 When there are no indoor units, “00” is displayed.	°C																								
	Indoor set temperature 17 - 30	17 - 30 When there are no indoor units, “00” is displayed.	°C																								

SW2 setting	Display contents	Description of display	Unit																													
	Indoor unit control status Indoor 1, 2	Control mode display system  Indoor unit No.2  Indoor unit No.1 Indoor unit No.4 Indoor unit No.3 <table border="1"><thead><tr><th rowspan="2">Display</th><th colspan="2">Control mode</th></tr><tr><th>Indoor unit</th><th>Outdoor unit</th></tr></thead><tbody><tr><td>0</td><td>Ordinary</td><td>←</td></tr><tr><td>1</td><td>Hot adjustment</td><td>←</td></tr><tr><td>2</td><td>Defrosting</td><td>←</td></tr><tr><td>3</td><td>—</td><td>←</td></tr><tr><td>4</td><td>Heater ON</td><td>←</td></tr><tr><td>5</td><td>Freeze prevention</td><td>←</td></tr><tr><td>6</td><td>Surge prevention</td><td>←</td></tr><tr><td>7</td><td>Compressor OFF</td><td>←</td></tr></tbody></table>	Display	Control mode		Indoor unit	Outdoor unit	0	Ordinary	←	1	Hot adjustment	←	2	Defrosting	←	3	—	←	4	Heater ON	←	5	Freeze prevention	←	6	Surge prevention	←	7	Compressor OFF	←	—
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4	Heater ON	←																														
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	Indoor unit control status Indoor 3, 4		—																													
	Condenser/evaporater temperature (TH3)	–39 - 88 (When 0 °C or lower, “–” and temperature are displayed alternately.) <Example> When –10, every other second – □ ↔ –10	°C																													
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	Discharge super heat SHd 0 - 216 Cooling: Outdoor TH2 - Outdoor TH3 Heating: Outdoor TH2 - Indoor TH3 (Average)	0 - 216 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 150, every other second 1 □ ↔ 50	°C																													
	Sub cool Sc 0 - 130 Cooling: Outdoor TH3 - Outdoor TH1 Heating: Indoor TH3 (Average) - Indoor TH2 (Average)	0 - 130 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 100, every other second 1 □ ↔ 00	°C																													
	Target sub cool step N 1 - 5	1 - 5	—																													

SW2 setting	Display contents	Description of display	Unit
	Communication demand capacity 0 - 255	0 - 255 When communication demand not set: 100 % (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 100, every other second 1 $\square \longleftrightarrow$ 100	%
	Abnormal thermistor display 1 - 3, –	1 - 3, – 1: Outdoor liquid temp thermistor (TH1) 2: Outdoor discharge temp thermistor (TH2) 3: Outdoor condenser/evaporater temp thermistor (TH3) –: No abnormal thermistor	–
	FAN output at abnormal stop 0 - 100	0 - 100 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 100, every other second – $\square \longleftrightarrow$ 00	%
	Outdoor Condenser/evaporater temp temperature at abnormal stop –39 - 88	–39 - 88 (When 0 °C or lower, “–”and temperature are displayed alternately.) <Example> When –10, every other second – $\square \longleftrightarrow$ –10	°C
	Discharge super heat SHd at abnormal stop 0 - 216 Cooling: Outdoor TH2- Outdoor TH3 Heating: Outdoor TH2- Indoor TH3 (average)	0 - 216 (When 100 °C or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 150, every other second – $\square \longleftrightarrow$ 50	°C
	Sub cool Sc at abnormal stop 0 - 130 Cooling: Outdoor TH3- Outdoor TH1 Heating: Indoor TH3 (average) -Indoor TH2 (average)	0 - 130 (When 100 °C or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 100, every other second 1 $\square \longleftrightarrow$ 00	°C

SW2 setting	Display contents	Description of display	Unit
	Thermostat ON time up to abnormal stop 0 - 999	0 - 999 (When 100 or higher, 100s digit and 10s and units digits are displayed alternately.) <Example> When 245, every other second 2 ☐ ↔ 45	Minutes
	Indoor unit condenser/evaporater temp temperature (TH3) Indoor 1 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C
	Indoor unit condenser/evaporater temp temperature (TH3) Indoor 2 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C
	Indoor unit condenser/evaporater temp temperature (TH3) Indoor 3 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C
	Indoor unit condenser/evaporater temp temperature (TH3) Indoor 4 -39 - 88	-39 - 88 (When 0 °C or lower, “-”and temperature are displayed alternately.) When there are no indoor units, “00” is displayed.	°C

[4] Simple parts check method

Part name	Judgment instructions											
Thermistor (TH1) <Liquid temperature detection> Thermistor (TH2) <Discharge temperature detection> Thermistor (TH3) <Condenser/evaporater temperature detection>	Disconnect the connector and measure the resistance value with a multimeter. (Ambient temperature 10 °C to 30 °C) <table><tr><td></td><td>Normal</td><td>Abnormal</td></tr><tr><td>TH1, 3</td><td>4.3 kΩ~9.6 kΩ</td><td rowspan="2">Open or short</td></tr><tr><td>TH2</td><td>160 kΩ~410 kΩ</td></tr></table> (Based on thermistor characteristic table (next page))		Normal	Abnormal	TH1, 3	4.3 kΩ~9.6 kΩ	Open or short	TH2	160 kΩ~410 kΩ			
	Normal	Abnormal										
TH1, 3	4.3 kΩ~9.6 kΩ	Open or short										
TH2	160 kΩ~410 kΩ											
Fan motor Thermal protector trip temperature 150 ± 5 °C 	Measure the resistance value across the terminals with a multimeter. (Winding temperature 20 °C) <table><tr><td>Motor lead wire</td><td>Normal</td><td>Abnormal</td></tr><tr><td>PUH-7, 8MYF</td><td rowspan="2">217 Ω</td><td rowspan="2">Open or short</td></tr><tr><td>Between 2 phases</td></tr><tr><td>PUH-10MYF</td><td rowspan="2">123 Ω</td><td rowspan="2">Open or short</td></tr><tr><td>Between 2 phases</td></tr></table>	Motor lead wire	Normal	Abnormal	PUH-7, 8MYF	217 Ω	Open or short	Between 2 phases	PUH-10MYF	123 Ω	Open or short	Between 2 phases
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PUH-7, 8MYF	217 Ω	Open or short										
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Compressor	Measure the resistance value across the terminals with a multimeter. (Winding temperature 20 °C) <table><tr><td>Normal</td><td>Abnormal</td></tr><tr><td>PUH-7MYF</td><td rowspan="2">Open or short</td></tr><tr><td>Each phase 1.66 Ω</td></tr><tr><td>PUH-8MYF</td><td rowspan="2">Open or short</td></tr><tr><td>Each phase 1.51 Ω</td></tr><tr><td>PUH-10MYF</td><td rowspan="2">Open or short</td></tr><tr><td>Each phase 1.03 Ω</td></tr></table>	Normal	Abnormal	PUH-7MYF	Open or short	Each phase 1.66 Ω	PUH-8MYF	Open or short	Each phase 1.51 Ω	PUH-10MYF	Open or short	Each phase 1.03 Ω
Normal	Abnormal											
PUH-7MYF	Open or short											
Each phase 1.66 Ω												
PUH-8MYF	Open or short											
Each phase 1.51 Ω												
PUH-10MYF	Open or short											
Each phase 1.03 Ω												

[5] Reference Data

<Thermistor characteristic table>

Low temperature thermistor

Thermistor <Liquid temperature detection> (TH1)

Thermistor <Condenser/evaporater temperature detection> (TH3)

Thermistor <Liquid temperature detection> (TH1)

Thermistor <Condenser/evaporater temperature detection> (TH3)

Thermistor $R_0 = 15 \text{ k}\Omega \pm 3 \%$

B constant = $3,460 \text{ k}\Omega \pm 2 \%$

$$R_t = 15 \exp \left\{ 3,460 \left(\frac{1}{273 + t} - \frac{1}{273} \right) \right\}$$

0 °C: 15 k Ω

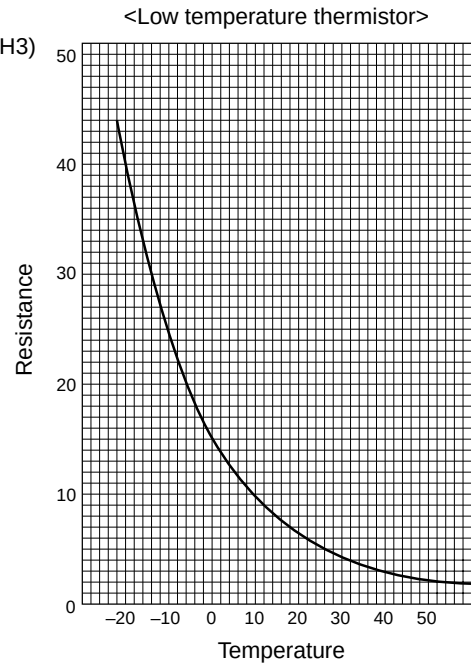
10 °C: 9.7 k Ω

20 °C: 6.4 k Ω

25 °C: 5.3 k Ω

30 °C: 4.3 k Ω

40 °C: 3.1 k Ω



High temperature thermistor

Thermistor <Discharge temperature detection> (TH2)

Thermistor (Discharge temperature detection) (TH2)

Thermistor $R_{120} = 7.465 \text{ k}\Omega \pm 2 \%$

B constant = $4,057 \text{ k}\Omega \pm 2 \%$

$$R_t = 7.465 \exp \left\{ 4,057 \left(\frac{1}{273 + t} - \frac{1}{393} \right) \right\}$$

20 °C: 250 k Ω

70 °C: 34 k Ω

30 °C: 160 k Ω

80 °C: 24 k Ω

40 °C: 104 k Ω

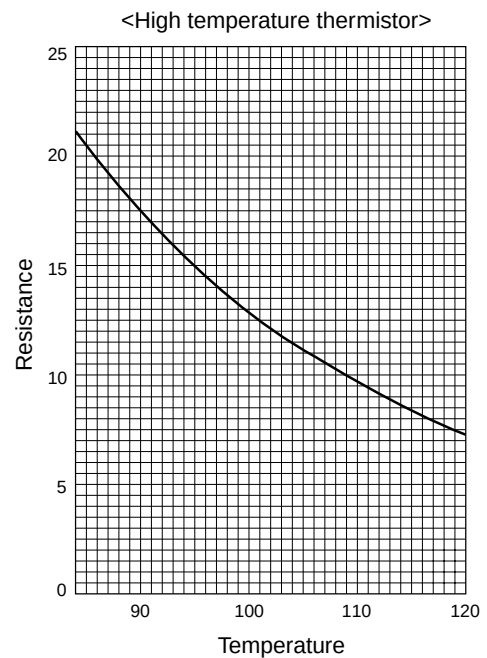
90 °C: 17.5 k Ω

50 °C: 70 k Ω

100 °C: 13.0 k Ω

60 °C: 48 k Ω

110 °C: 9.8 k Ω



[6] Emergency operation

- 1) When the following check displays occur at the outdoor unit, or when the wired remote controller or indoor unit microcomputer fails, if there are no other defects, emergency operation is possible by shorting the connector (CN31) on the outdoor controller board.

- Abnormalities that allow emergency operation

Display	Check contents
U4	Liquid temp thermistor (TH1) open or shorted Condenser/evaporator temp thermistor (TH3) open or shorted
E8	Indoor-outdoor communication receive abnormal (outdoor unit)
E9	Indoor-outdoor communication send abnormal (outdoor unit)
E0 - E7	Communication other than outdoor unit abnormal

- 2) Check items and precautions when performing emergency operation

- ① In addition to the abnormalities above, check the outdoor unit for any abnormalities. (When there is an abnormality other than the above, emergency operation is impossible.)
- ② Check the operating range. (For U4 display)
Since the outdoor fan always operates at full speed at emergency operation, do not operate the air conditioner outside the range shown below.

	Operation range (outdoor unit intake temperature)
Cooling	geater than 20 °C
Heating	less than 10 °C

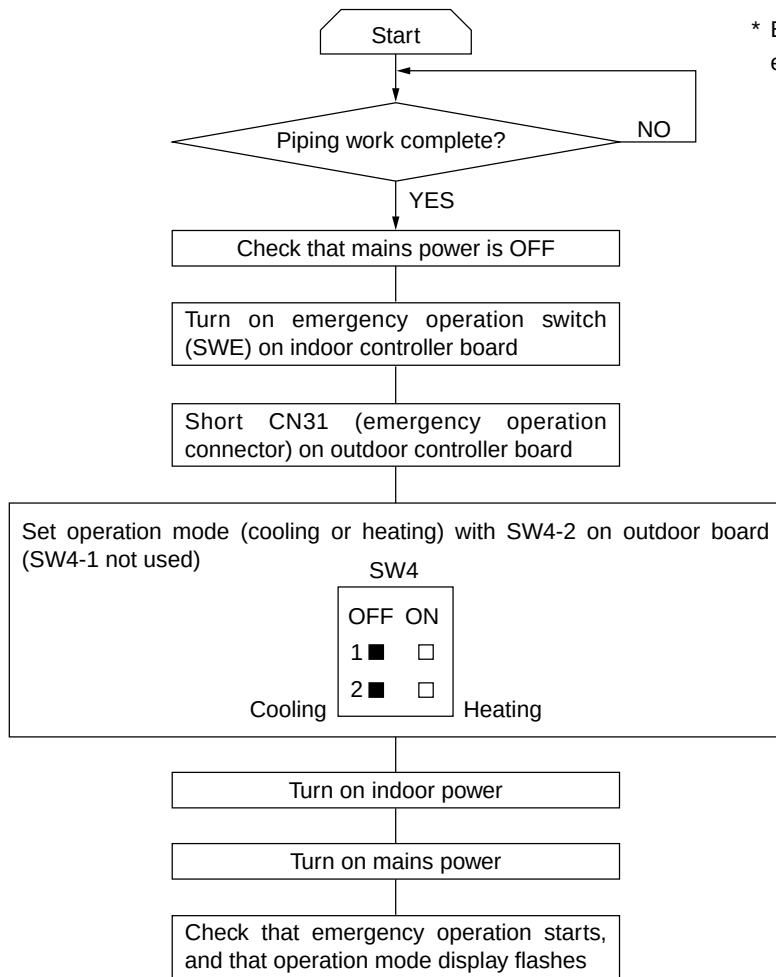
Operation outside this range may cause compressor trouble.

- ③ When performing emergency operation, set the outdoor unit after setting the emergency operation switch (SWE) on the indoor controller board. For the indoor emergency operation method, refer to the indoor unit wiring diagram.
- ④ A power failure causes emergency operation to become continuous operation. ON/OFF, temperature adjustment and other operations cannot be performed from the remote controller.
(When a PEH-P8YE or P10YE indoor unit is connected, check that the special indoor unit power is turned on, then start emergency operation.)
- ⑤ Since cool air is discharged from the indoor unit, when the outdoor unit starts the defrosting operation during heating emergency operation, do not operate the air conditioner for a long time.
- ⑥ You can perform cooling emergency operation up to 10 hours. The indoor unit heat exchanger may freeze.
- ⑦ At the end of emergency operation, always return the switch settings, etc. to their original state.

- 3) Emergency operation contents

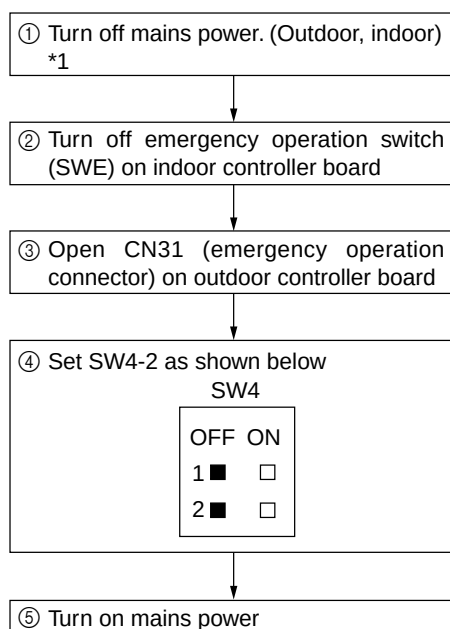
- ① The operation mode operates according to the contents set (cooling or heating) by SW4-2.
- ② The fan operation condition is always 100 % operation.
- ③ The operation mode display flashes every other second.

4) Emergency operation method



* Before starting, recheck that the trouble allows emergency operation.

5) Emergency operation release method



[7] Self-diagnosis and troubleshooting

<Abnormality detected at power on>

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
None		① Voltage not applied to outdoor unit terminal block TB1. a. Power supply circuit breaker not closed. b. Power supply terminals connection faulty, or disconnected. c. Missing phase (R or S phase) ② No electricity at controller board power supply connector. a. Power supply connector contact faulty. b. Terminal R/1 or S/2 on controller board disconnected. ③ Outdoor unit controller board faulty. a. Blown fuse on controller board. b. Part faulty.	① a. Check power supply circuit breaker. b. Check power supply terminal block connections. c. Check power supply terminal block connections. ② a. Check power supply connector board connections. ③ a. Replace fuse. b. Replace controller board. (However, when cannot be repaired even through the check above was carried out.)
EA	Indoor/outdoor connection erroneous wiring, too many indoor units (5 or more) 1. Outdoor controller board automatically recognizes the number of connected indoor units. However, when the number of connected indoor units cannot be set due to erroneous indoor/outdoor connection, erroneous wiring, etc. even after 4 minutes have elapsed since the power was turned on, an abnormality is recognized. 2. When the outdoor controller board identified "5 or more" connected indoor units, an abnormality is recognized.	① Indoor/outdoor connection wire contact faulty or erroneous wiring. ② Indoor/outdoor connection wire diameter or wiring length outside specification. ③ Five or more indoor units connected to outdoor unit. ④ Outdoor controller board send/receive circuit faulty. ⑤ Indoor controller board send/receive circuit faulty. ⑥ Noise has entered on power supply or indoor/outdoor connection wire.	① Check if indoor unit or outdoor unit indoor/outdoor connection wire disconnected or loose. Also check polarity. ② Check indoor/outdoor wire diameter and wiring length. Outdoor-indoor: Max. 50 m Indoor-indoor (span): Max. 30 m Also check that VVF and other flat cables are connected in S1, S2, S3 order. (S2 in the middle) ③ Check number of indoor units connected to outdoor unit. ④ Check by turning power off and on. If abnormality is displayed again, replace outdoor controller board or indoor controller board. * LED3 of the indoor controller board flashes when communication is being performed.
Eb	Indoor/outdoor connection erroneous wiring The outdoor controller board automatically sets the unit No. of the indoor units. However, when the unit No. of the indoor units cannot be set due to indoor/outdoor connection erroneous wiring even after 4 minutes has elapsed since the power was turned on, an abnormality is recognized.	① Indoor/outdoor connection wire contact faulty, or erroneous wiring. ② Indoor/outdoor connection wire diameter or wiring length outside specification. ③ Outdoor controller board send/receive circuit faulty. ④ Indoor controller board send/receive circuit faulty. ⑤ Noise has entered on power supply or indoor/outdoor connection wire.	
EC	Start-up time over When start-up processing does not end even through 4 minutes has elapsed since the power was turned on, an abnormality is recognized.	① Indoor/outdoor connection wire contact faulty. ② Indoor/outdoor connection wire diameter or wiring length outside specification. ③ Noise has entered on power supply or indoor/outdoor connection wire.	
F1	Reverse phase detected	Power supply reverse phase connection.	① Check power supply terminal block connections.
F2	Missing phase detected	Power supply missing phase.	② Replace controller board (However, when cannot be repaired even though check above was carried out.)

<Abnormality detected during unit operation: Outdoor unit>

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
U2	Discharge temperature abnormal When the discharge thermistor temperature (TH2) exceeds 135 °C while the compressor is operating, an abnormality is recognized.	① Compressor overheating due to insufficient refrigerant. ② Thermistor faulty. (TH2) ③ Outdoor controller board faulty.	① Check input super heat. Check for refrigerant leakage and check piping length. Charge with additional refrigerant. ②③ Turn off power and restart operation and check if U3 is displayed within 8 minutes. When U3 is displayed, carry out U3 processing. (Do not replace board at U2 display only.)
	49C trip (CN23 connector disconnected) When connector CN23 opens while the compressor is operating, an abnormality is recognized.	① Shorting connector CN23 on outdoor controller board dislodged or contact faulty.	① Repair shorting connector.
U3	Discharge temp thermistor (TH2) open or shorted. When an open (0 °C or lower) or short (216 °C or higher) is detected while the compressor is operating, an abnormality is recognized. (Detection is disabled for 5 minutes at compressor starting.)	① Connector (CN3) dislodged or connect faulty. ② Thermistor faulty. ③ Outdoor controller board faulty.	① Check connector contact and thermistor wire. ② Check thermistor resistance value, or check temperature by microcomputer. (Check using SW2 self-diagnosis function.) See page 36. ③ Replace outdoor controller board. (Replace board after sufficiently checking ① and ②.)
U4	Liquid temp thermistor (TH1) or condenser/evaporator temp thermistor (TH3) open or shorted. When an open (–39 °C or lower) or short (88 °C or higher) is detected while the compressor is operating, an abnormality is recognized. (Detection is disabled for 7 minutes beginning from 10 seconds after the compressor starts and for 10 minutes after return from defrosting.)	① Connector (TH1: CN2, TH3: CN4) dislodged or contact faulty. ② Thermistor faulty. ③ Outdoor controller board faulty.	① Check connector contact and thermistor wire. ② Check thermistor resistance value or check temperature by microcomputer. (Check using SW2 self-diagnosis function.) See to page 36. ③ Replace outdoor controller board. (Replace board after sufficiently checking ① and ②)
U6	Compressor overcurrent trip When the current value reaches the overload set value or higher while the compressor is operating, an abnormality is recognized. 7MYF 19 A 8MYF 22 A 10MYF 31 A	① Overload operation exceeding unit usage range limit. ② Power supply terminal voltage low. ③ Power supply missing phase. ④ Compressor motor faulty. ⑤ Compressor locked. ⑥ Connector (CN22) on outdoor controller board dislodged or contact faulty. ⑦ 51C disconnected or contact faulty.	① Check usage conditions. (Check for short cycle operation.) ② Check power supply voltage. ③ Check wiring for breaks and faulty contact. ④ Check motor winding resistance (See page 35.) ⑤ Replace compressor. ⑥⑦ After checking connections, restart and check operation.
UE	High pressure abnormal (63H1 trip) Detected (3.3 ^{+0.15} MPa) by 63H1 trip while compressor is operating. 63H1: Pressure switch (high pressure) OFF: 3.3 MPa	① Started with ball valve closed. ② Connector (CN21) on outdoor controller board dislodged or contact faulty. ③ 63H1 disconnected or contact faulty. ④ Indoor filter clogged. Power reset detected during heating overload operation (Heating). ⑤ Low indoor unit air flow (heating). ⑥ Low outdoor unit air flow (cooling). ⑦ Part faulty.	① Check if ball valve is fully open. ②③ Repair connector. ④ Check indoor filter. ⑤ Check flow duct static pressure and for faulty fan motor. ⑥ Check for faulty outdoor fan motor. ⑦ Replace pressure switch.

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
EO	Remote controller communications receive abnormal (remote controller). 1) When transmission from refrigerant address "0" IC is not received normally even once in 3 minutes, an abnormality is recognized. 2) When a slave remote controller does not receive even one signal in 2 minutes, an abnormality is recognized.	① Remote controller send/receive circuit faulty. ② Refrigerant address "0" indoor controller board send/receive circuit faulty. ③ Noise entered on remote controller transmission line.	Perform remote controller diagnosis. Take the following action based on the diagnosed result: a) [RC OK] display Remote controller normal. Turn power off and on and check. If "H0" remains on for 4 minutes or longer, replace indoor controller board. b) [RC NG] display Replace remote controller. c) [RC E3] display } Noise, etc. probable [ERC00-66] } cause.
E3	Remote controller communication send abnormal (remote controller) 1) When the remote controller can not confirm that the transmission circuit is idle in 6 seconds, an abnormality is recognized. 2) When the remote controller cannot complete 30 continuous transmissions, an abnormality is recognized.	① Remote controller send/receive circuit faulty. ② Noise entered on remote controller transmission line.	
E8	Indoor-outdoor communication receive abnormal (Outdoor unit) When the outdoor controller can not receive normally even once in 3 minutes, an abnormality is recognized.	① Indoor/outdoor connection wire contact faulty. ② Outdoor controller board send/receive circuit faulty. ③ Indoor controller board send/receive circuit faulty. ④ Noise entered on indoor/outdoor connection wire.	① Check for disconnected or loose indoor unit or outdoor unit indoor/outdoor connection wire. ②-④ Turn power off and on and check. If abnormality displayed again, replace indoor controller board or outdoor controller board.
E9	Indoor-outdoor communication send abnormal (Outdoor unit) 1) When the outdoor controller detects reception of 30 consecutive "0" even through "1" was received, an abnormality is recognized. 2) When the outdoor controller can not confirm that the transmission circuit is idle in 3 minutes, an error is recognized.	① Outdoor controller board send/receive circuit faulty. ② Noise entered at power supply. ③ Noise entered on indoor/outdoor connection wire.	①②③ Turn power off and on and check. If abnormality displayed again, replace indoor controller board or outdoor controller board.
EF	Check code undefined Displayed when an undefined check code is received.	① Noise entered on remote controller transmission line. ② Noise entered on indoor/outdoor connection wire.	①② Turn power off and on and check. If abnormality displayed again, replace indoor controller board or outdoor controller board.

<Abnormality detected during unit operation: Indoor unit>

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
P1	Intake sensor abnormal 1) If thermistor open or short is detected and the compressor enters the 3 minutes restart prevention mode and does not return to normal after 3 minutes, an abnormality is recognized. (If returned, returns to normal operation.) 2) Always detected during cool, dry, and heat operations. Short: 90 °C or higher Open: -40 °C or lower	① Thermistor characteristics faulty. ② Connector contact faulty. (Insertion faulty) ③ Thermistor wiring open or contact faulty. ④ Indoor controller board faulty.	①-③ Check thermistor resistance value 0 °C 15.0 kΩ 10 °C 9.7 kΩ 20 °C 6.4 kΩ 30 °C 5.3 kΩ 40 °C 3.1 kΩ Open or faulty contact can be detected by applying force (pulling, bending) to lead wire while measuring thermistor resistance. ② Check for connector faulty contact. After reinserting connector, turn on power and recheck operation. ④ Check remote controller room temperature display. If there is a difference between actual room temperature and displayed room temperature after checking that there are no problems at ①-③, replace indoor controller board. If there are no problems above, there are no abnormalities. Turn power off and on and operate.
P2	Piping sensor abnormal 1) If thermistor short or open is detected and the compressor enters the 3 minutes restart prevention mode and does not return to normal after 3 minutes, an abnormality is recognized. (If returned, returns to normal operation.) 2) Always detected during cool, dry, and heat (except during defrosting) operation. Short: 90 °C or higher Open: -40 °C or lower	① Thermistor characteristics faulty. ② Connector contact faulty. (Insertion faulty) ③ Thermistor wiring open or contact faulty. ④ Faulty refrigerant circuit, etc. has caused thermistor temperature to rise to 90 °C or higher or drop to -40 °C or lower. ⑤ Indoor controller board faulty.	①-③ Check thermistor resistance value. For characteristic, see above (P1). ② Check for connector faulty contact. After reinserting connector, turn on power and recheck operation. ④ Operate in trail run mode and check piping temperature with remote controller. When piping temperature is abnormally low (cooling) or high (heating), refrigerant circuit is probably faulty. ⑤ Check test run mode piping temperature with remote controller. If there is a difference between actual piping temperature and displayed piping temperature when there are no abnormalities at ①-④, replace indoor controller board. If there is no problem above, there are no abnormalities. Turn on power and operate.

<Abnormality detected during unit operation: Indoor unit>

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
P6	Freezing/excessive rise protection operation 1) Freezing protection When the piping temperature remains at -15 °C or lower for 3 minutes after 3 minutes have elapsed since the compressor started, the compressor enters the 6 minutes restart prohibit mode and if the piping temperature again remains at -15 °C for 3 minutes within 16 minutes after 6 minutes restarting, an abnormality is recognized. 2) Excessive rise protection When a piping temperature rise to 70 °C or higher is detected after the compressor starts, the compressor enters the 6 minutes restart prohibit mode. If a piping temperature rise up to 70 °C or higher is detected again within 10 minutes after 6 minutes restarting, an abnormality is recognized.	<Cool and dry> ① Filter is clogged (insufficient air flow). ② Air duct short cycle. ③ Low load operation (low temperature) exceeding allowable range. ④ Indoor fan motor faulty. ⑤ Outdoor fan control faulty (intermediate period, winter). ⑥ Refrigerant overcharged. ⑦ Refrigerant circuit faulty (clogged). <Heat> ① Filter clogged (insufficient air flow) ② Air duct short cycle. ③ Overload operation (high temperature) exceeding allowable range. ④ Indoor fan motor faulty. ⑤ Outdoor fan control faulty (intermediate period) ⑥ Refrigerant overcharged. ⑦ Refrigerant circuit faulty (clogged) ⑧ Outdoor unit bypass circuit faulty.	<Cool and dry> ① Check filter for clogging. ② Remove obstruction. ④ Check fan motor operation and winding resistance. ⑤ Check outdoor fan motor operation. ⑥ ⑦ Check refrigerant circuit operation. <Heat> ① Check filter for clogging. ② Remove obstruction. ④ Check fan motor operation and winding resistance. ⑤ Check outdoor fan motor operation. ⑥-⑧ Check refrigerant circuit operation.

<Abnormality detected during unit operation: Indoor unit>

Abnormality display	Meaning of abnormality display and abnormality troubleshooting	Cause	Judgment method and remedy
P8	Piping temperature abnormal <Cool> When the piping temperature stays outside the cooling area for 1 minute after 3 minutes have elapsed since the compressor was started, the indoor fan operates at low speed. If the piping temperature does not return to the cooling area after 5 minutes operation at low speed, an abnormality is recognized. Note 1) It takes a minimum of 9 minutes for an abnormality to be detected. Note 2) At dry operation, P8 abnormality is not detected. <Heat> When the piping temperature falls outside the heating area and enters the ventilation area after compressor operation and the end of hot adjust, the indoor fan stops and the piping temperature does not return to the heating area within 20 minutes after 10 seconds have elapsed after it left the heating area, an abnormality is recognized. Note 3) It takes a minimum of 22 minutes and a maximum of 27 minutes for an abnormality to be detected. Note 4) Except during defrosting (Detected again after defrosting return.)	① Indoor intake piping thermistor temperature differential small. - EInsufficient refrigerant - EPiping thermistor holder dislodged. - ERefrigerant circuit faulty. ② Extension piping (When multiple units connected). ③ Indoor/outdoor connection wire (When multiple units connected). ④ Indoor intake piping thermistor detection faulty.	① Operate in test run mode and check piping temperature. ②③ Check extension piping or indoor/outdoor connection wire. ④ Check remote controller room temperature display and piping temperature in test run mode.
E4	Remote control communication receive abnormal 1) When the indoor controller board can not receive data normally from the remote controller or another indoor controller board even once in 3 minutes, an abnormality is recognized. 2) When the indoor controller board can not receive signals even once in 2 minutes, an abnormality is recognized.	① Remote controller transmission line contact faulty. ② All remote controllers set as "slave" remote controller. ③ Remote controller send/receive circuit faulty. ④ Indoor controller board send/receive circuit faulty. ⑤ Noise entered on remote controller transmission line.	① Check if indoor unit or remote controller transmission line disconnected or loose. ② Set one remote controller as "master". When there are no problems at the above ③ Perform remote controller diagnosis. a) [RC OK] display Remote controller normal. Check by turning power off and on. If the abnormality occurs again, replace indoor controller board. b) [RC NG] display Replace remote controller. c) [RC E3] display [ERC00-66] noise, etc. is probable cause.

<Troubleshooting and repair by symptom>

Symptom and operation when normal	Cause	Symptom judgment and remedy
1. No remote controller display	① DC14 V is not supplied to remote controller. (No power O display on liquid crystal panel.) ② DC14V is supplied to remote controller but nothing is displayed. - "H0" not displayed - "H0" displayed	① Check LED2 on indoor controller board. 1) Steady light Check remote controller wire open or faulty contact. 2) Flashing Check for remote controller wire short. 3) Not lit Check outdoor controller refrigerant address. ② Make the following judgment: - When "H0" is not displayed, remote controller is faulty. - When "H0" is displayed, see item 2.
2. Remote controller displays "H0" unchanged.	① Remote controller displays "H0" for maximum of 2 minutes for starting after power turned on. ② Indoor-remote controller communication faulty. ③ Outdoor-indoor communication faulty.	① Normal operation. ② Remote controller self-diagnosis. ③ When outdoor-indoor cannot communicate "H0" is displayed for a maximum 6 minutes. Check LED3 on indoor controller board. 1) Does not flash Check indoor/outdoor connection cable for erroneous wiring. (S1 and S2 or S3 open) 2) Flashes Indoor/outdoor connection cable is normal.
3. When remote controller operation switch pressed, operation display appears but immediately disappears.	① Operation switch is disabled for approximately 30 seconds after function select operation from remote controller is released.	① Normal operation.
4. Does not beep and air conditioner does not operate even when operated with wireless remote controller. (Operation display appears on wireless remote controller.)	① Wireless remote controller and indoor controller board pair number setting mismatched. ② Cause of item 1.	① Check pair number setting. ② Item check of item 1.
5. When operated with wireless remote controller, beeps but does not operate.	① Air conditioner does not operate for a maximum of 2 minutes after the power is turned on. ② Set to local operation prohibit mode. - Remote start/stop adapter is connected to CN32 on indoor controller board. - Air conditioner is connected to MELANS and is set to local operation prohibit mode from centralized controller, etc. ③ Cause of item 2.	① Normal operation. ② Normal operation. ③ Item check of item 2.
6. Remote controller display is normal and cooling operation is performed, but without any capacity (does not cool).	① Insufficient refrigerant. ② Filter clogged. ③ Outdoor unit heat exchanger clogged. ④ Air duct short cycle. ⑤ Outdoor unit bypass circuit faulty.	① - When there is leakage, discharge temperature rises. Therefore, check by measuring temperature. - Check for gas leakage from piping connections, etc. ② Open intake grille and check filter. Clean filter, and remove dust and dirt. ③ - Since both indoor piping temperature and outlet pressure rise when filter clogged, judge by measuring outlet pressure. - Clean heat exchanger. ④ Remove obstruction. ⑤ Check refrigerant circuit operation state.

Symptom and operation when normal	Cause	Symptom judgment and remedy
7. Remote controller display is normal and heating operation is performed but without any capacity (does not heat).	① Insufficient refrigerant. ② Refrigerant piping heat insulation insufficient. ③ Filter clogged. ④ Indoor unit heat exchanger clogged. ⑤ Air duct short cycle. ⑥ Outdoor unit bypass circuit faulty.	① - Since the discharge temperature rises when there is leakage, judge by measuring the temperature. - Check piping connections, etc. for gas leakage. ② Check heat insulation. ③ Open intake grille and check filter. Clean filter, and remove dust and dirt. ④ - Since the indoor piping temperature and outlet pressure rise when the heat exchanger is clogged, judge by measuring the outlet pressure. - Clean heat exchanger. ⑤ Remove obstruction. ⑥ Check refrigerant circuit operation state.

<Indoor/outdoor connection wire erroneous wiring and open symptoms>

Erroneous wiring contents	Condition	Remote controller display	Indoor controller board LED display			Outdoor controller board LED display	Remarks
			LED1	LED2	LED3		
Outdoor side Indoor side	Trial run (relocation)	"◎" Power supply mark	On	On	Flashing	OO	Normal wiring
Outdoor side Indoor side	Trial run	No display	Off	Off	Off	EA (after 4 minutes)	
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	On	Off	Off	EA (after 4 minutes)	
	relocation	Eb	On	On	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	Off	Off	Off	EA (after 4 minutes)	
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	On	Off	Off	EA (after 4 minutes)	
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	On	Off	Off	EA (after 4 minutes)	
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	Off	Off	Off	EA (after 4 minutes)	Open between S1
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	Off	Off	Off	EA (after 4 minutes)	Open between S2
	relocation	No display	Off	Off	Off	Eb (after 4 minutes)	
Outdoor side Indoor side	Trial run	No display	On	Off	Off	EA (after 4 minutes)	Open between S3
	relocation	Eb	On	On	Off	Eb (after 4 minutes)	

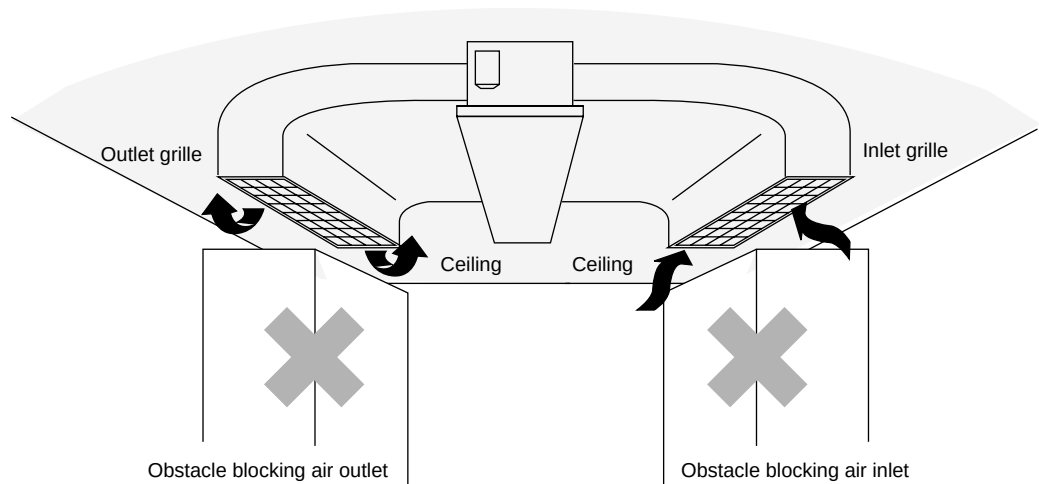
INSTRUCTIONS FOR USE

1. Check points for operation

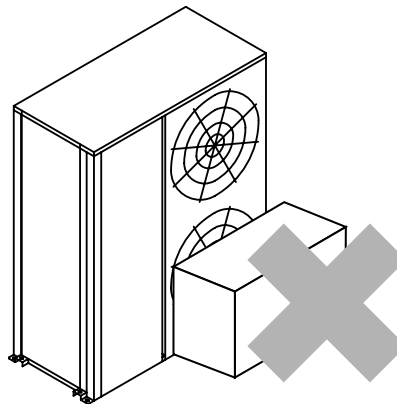
Check the following points before you operate your air conditioner.

(1) Check that there is nothing blocking the flow of air from the air outlet into the air inlet.

Indoor unit

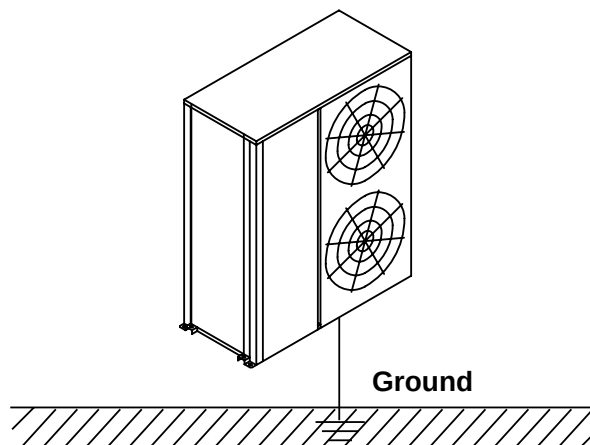


Outdoor unit



Obstacle blocking air inlet/outlet

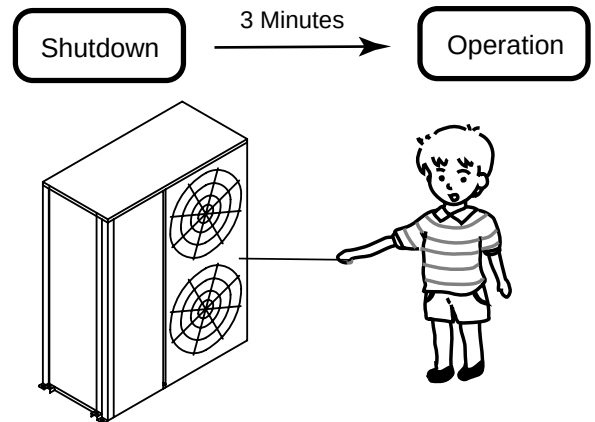
(2) Make sure the air conditioner is properly grounded by checking the ground terminal.



2. Caution for use

Keep the following points in mind to safeguard against failures and breakdowns.

- (1) This air conditioner does not restart within 3min. after shut down.(These models have a crankcase heater in the compressor. If the air conditioner is shut down for a short time, please do not turn the power switch to OFF, but turn the operation switch to OFF.)
- (2) If the air conditioner is shut down by a power failure, set the operation switch to OFF. When the power is restored, normal air conditioner operation can be resumed.
- (3) Do not insert a finger or rod into the air outlet and inlet. It can cause injury as the fan inside is rotating at high speed.



3. Maintenance

For superior performance and lasting durability, please do not forget to conduct proper and regular maintenance

⚠ Warning

1. Do not wash the unit with water.

If washed with water, electrical shock may be caused.

2. Ahead of the maintenance.

For safety, turn the power source off before service work.

3.1 Cleaning the Air Filter

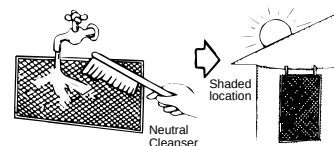
Clean the air filter about once a week with a neutral cleanser and leave it to dry in a shady location.

Clean more regularly if the air filter gets very dirty.

If the filter gets blocked, air will not be sucked in properly, and the cooling effect will deteriorate.

Failure to clean the air filter may result in equipment breakdown or malfunctions.

1. Removing the air filter.
2. The air filter is cleaned with the cleaner or washed in clear water.
When the filter is dirty, please wash it with lukewarm water and some neutral detergent is recommended.
Please do not use a hot water of 50°C or more.
(It transforms occasionally.)
It is necessary to avoid massage washing and squeeze strongly.
It must rinse enough and the detergent must not remain.
3. When the filter is washed in clear water, it is often dried in the shade.
Please do not dry it to direct sunshine and a direct fire.
4. The air filter is installed as before.



3.2 Cleaning panels

Clean dirt off front panel as follows.

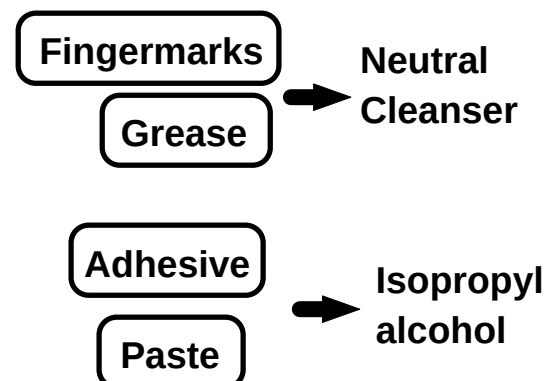
Use a household neutral cleanser such as for dishes or vegetables. Moisten a soft cloth with the cleanser, then wipe lightly. Next, wipe three or four times with another soft cloth moisten with water. Finally, wipe off all the remaining cleanser with a soft cloth.

Moisten a soft cloth with the alcohol, then wipe off lightly.

Isopropyl alcohol is sold at stores as reagents in small quantities.

Note:

Alcohol is highly combustible. Take extreme care when handling. Also, do not use paint or adhesive thinner.



3.3 Cleaning the Outdoor Unit Heat Exchanger

If you use your air conditioner for prolonged periods, the outdoor heat exchanger will become dirty, impairing its function and reducing air conditioners performance. Consult your equipment supplier or air conditioning contractor on how to clean the heat exchanger.

4. When beginning to use air conditioner again

Please turn on the power supply after confirming an following check is done and abnormality is not found.

It is confirmed that air inlet and outlet are not blocked.

It is confirmed that the earth connection line does not come off.

The earth connection line is installed surely in the unit.

It is confirmed that there are neither lifting, blocking, no bending about the drain-hose.

Please do the following work.

1. It is confirmed to keep the controller OFF.
2. The power supply switch is turned on.

Keep the power switch ON for more than 6 hours before starting operation.

Do not turn the power supply OFF during seasons of heavy use, doing so can result in failure.

5. When the air conditioner is not to be used for long time

If the air conditioner is not to be used for a long time due to a seasonal change, etc.,

Please do the following work.

1. The power supply switch is turned off.
If the power supply is kept on, several watts or several tends of watts will be wasted.
Also, the accumulation of dust, etc., can result in fire.
2. Filter and drain pan are cleaned.
Pay attention to throw dust in the drain.
3. Run it for 4-5 hours with the air blowing until the inside is completely dry.
Failing to do so can result the growth of unhygienic, unhealthy mold in scattered areas throughout the room.

6. In case of failure

1. Never remodel the air conditioner.
Consult your dealer for any repair service.
Improper repair work can result in water leakage, electric shock, fire, etc.
2. If the poser breaker is frequently activated, get in touch with your dealer.
Leaving the unit as it is under such conditions can result in fire or failure.
3. If the refrigeration gas blows out or leaks, stop the operation of the air conditioner.
4. Thoroughly ventilate the room, and contact your dealer.
Leaving the unit as it is can result in accidents due to oxygen deficiency.

7. Transferring work, and construction

7.1 Transfer of installation

1. When removing and reinstalling the air conditioner when you enlarge your home, remodel, or move, consult with your dealer in advance to ascertain the cost of the professional engineering work required for transferring the installation.
2. Please do not mix the one other than a specified refrigerant when you add the refrigerant (R-22) at the installation and the transferring.
3. When moving or reinstalling the air conditioner, consult with your dealer.
Defective installation can result in electric shock, fire, etc.

7.2 Place for installation.

Please do not use the unit in the following places.

1. Place where a lot of oil (The machine oil is contained), moistures, and dust exist.
2. Place where a lot of salinities such as beach districts exists.
3. Place where sulfur gas, volatile gas, and corroded gas are filled.
4. Place where acid solution is frequently used.
5. Place where special spray is frequently used.
6. Hot spring zone.
7. Never machine (high cycle welding machine etc.) generating high cycle.
8. Place where ventilation entrance of outdoor unit is closed by snowfall.
9. The unit must be installed on stable, level surface.

The main body might corrode when the unit is used in such a place, the refrigerant leak, the performance of the unit decrease remarkably, and it cause the damage of parts of the unit.

7.3 Regarding electric work

1. The electrical work must be undertaken by a person who is qualified as an electric engineer according to the (technical standard respecting electrical installation), (internal wiring rules), the installation and operation manual with the absolute use of exclusive circuits. The range of working voltage is within $\pm 10\%$ voltage of power supply.
2. Please install a special power supply in the power supply.
3. Please install the earth connection for the electric shock prevention.
4. Never connect the grounding wire to a gas pipe, water pipe, arrester, or telephone grounding wires.
For details, consult with your dealer.
5. In some types of installation sites, the installation of an earth leakage breaker is mandatory. For details, consult with your dealer.
6. The breaker and the fuse must use the one of correct capacity.

7.4 Consideration of the noise

1. Take sufficient measures against noise when installing the air conditioners at hospitals or communication-related businesses.
2. If the air conditioner is used in any of the above-mentioned environments, frequent operational failure can be excepted.
It is advisable to avoid these type of installation sites.
For further details, consult with your dealer.
3. Choose a place where cool or warm air and noise from the outdoor air outlet of the air conditioner do not inconvenience the neighbours.
4. If any obstruction is placed near the air outlet of the unit, decreased performance and increased noise can result.
Do not place any obstruction near the air outlet.
5. If the air conditioner produces any abnormal sound, consult with your dealer.

7.5 Disposing of the unit

When you need to dispose of the unit, consult your dealer.

If pipes are removed incorrectly, refrigerant (fluorocarbon gas) may blow out and come into contact with your skin, causing injury.

Releasing refrigerant into the atmosphere also damages the environments.

7.6 Maintenance and inspection

1. If the air conditioner is used throughout several seasons, the insides can get dirty, reducing the performance.
2. Depending upon the conditions of usage, foul odours can be generated and drainage can deteriorate due to dust and dirt, etc.

SPECIFICATION GUIDELINES

Air to air reverse cycle split air conditioning system.

The systems shall operate at out door ambient temperatures as high as ___ °C.

The system shall have a total cooling capacity of ___kW or greater with an indoor air quantity of ___ L/s at ___ °C DB and ___ °C WB entering indoor coil temperature with a ___ °C temperature entering the outdoor coil.

The system shall have a sensible heat capacity of ___ kW or greater with a room DB temperature of ___ °C.

The total heating capacity (without electric element heaters) shall be ___ kW or greater at ___ °C DB, ___ °C WB outdoor air conditions, with ___ °C of indoor air entering indoor coil at ___ °C DB.

The compressors shall be a welded high efficiency hermetic type with internal vibration isolation and be equipped with a crankcase heater.

Coils shall be of non-ferrous construction with mechanically bonded aluminum plate fins Outdoor coils shall be made, of 9.52mm OD, 0.35mm thick formless copper tubes mechanically bonded to 0.12mm thick aluminum plate fins.

Face area of the coil shall not be less than ___ m² The coil shall be factory pressure and leak tested at 3.3 MPa pressure. The indoor coil face area shall be not less than ___ m².

Multi-wing propeller type fans shall be fitted at the condenser and shall be dynamically balanced, to ensure smooth airflow and shall discharge vertically and be direct driven by a weatherproof three phase squirrel cage ___kW induction motor.

The system shall be factory wired and all electrical wiring must comply with the Local wiring code (Controls and control wiring shall be supplied by the contractor). Compressors and fan motors shall have both internal and current sensitive overload devices.

An automatic defrost control shall be included to accomplish defrosting (only if required) every ___ minutes for a period of ___ minutes.

High pressure switch (pre-set) shall be factory installed.

The enclosure is weatherproof casing constructed of phosphatized, zinc coated steel with powder coating.
(OUTDOOR UNIT)

The unit shall be provided with hoisting plates for rigging and hoisting the unit. The hoisting plates shall be located in the pillars. (OUTDOOR UNIT)

The unit shall have a drain connection provided (25mm BSP: male thread).

The enclosure shall have openings provided for power connections.

Access for both service and installation shall be provided to compressors, control wiring, and fans.

Side panels and top panels shall be removable for easy service access.

The unit maximum dimensions shall be : height: ___mm, width: ___mm and depth: ___mm (INDOOR UNIT)
: height: ___mm, width: ___mm and depth: ___mm (OUTDOOR UNIT)

Due to continuous product development, these guidelines are subject to change.

DATA BOOK PEH-MYB

